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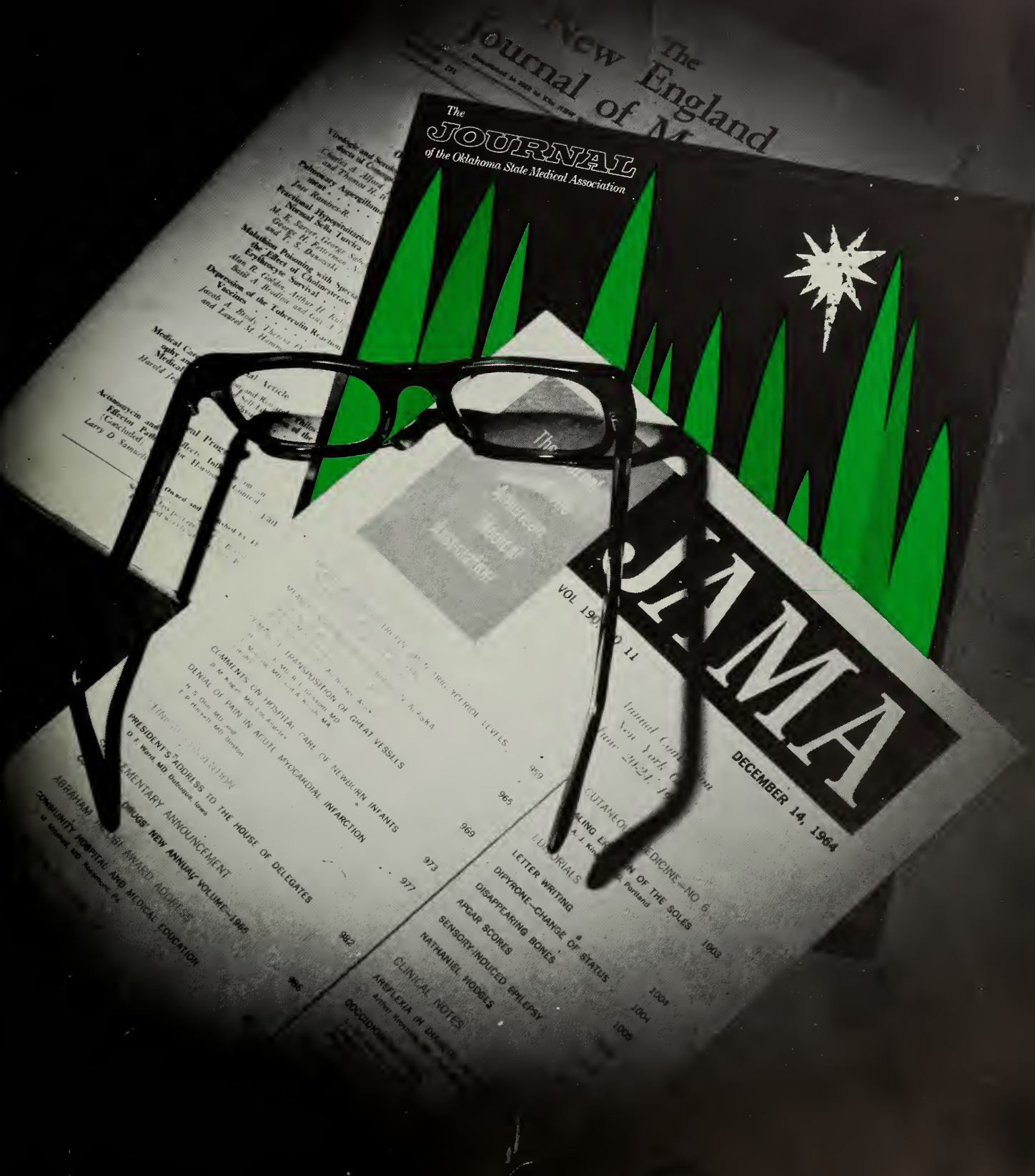
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he JOURNAL

the Oklahoma State Medical Association

Volume 58
Number 1
January 1965



What do you read? See pages 1 and 3

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*Roseman, E.: *Neurology* 11:912, 1961.

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What Do You Read?

OSMA
JOURNAL / editorial

YOU AND every other doctor in Oklahoma are responsible for this *Journal*. You write the scientific material, you participate in the OSMA meetings summarized in its pages and you prescribe certain medications whose manufacturers help in its support by advertising. The *Journal* is for you and by you. How well and how consistently you read it is a measure of its value.

A Readership Questionnaire is in this issue on yellow paper following the editorial section. We urge you to complete and return it in the self addressed, stamped envelope. Whatever you say, it will be a vote for the *Journal*.

For more than fifty years this *Journal* has been published every month. Some issues have been outstanding and some were mediocre, but always they have been the best of Oklahoma medical affairs available to the editorial committee.

Competition in medical journalism is getting tougher all the time because of the many new publications that are launched every year. Each of them consumes a part of the time doctors spend for writing and medical schools are not producing physicians fast enough to keep up. Accordingly, the number of scientific articles available to most journals is steadily decreasing. To make matters worse for state publications, medical authors often have a kind of vanity or other subtle pressure which makes the appearance of their paper in a national publication a bit more flattering than its acceptance by a state journal. When this vanity is pitted against one's loyalty to a relatively small organization (especially at an unconscious level) the national publication usually wins. So it is that state journals are suffering from a chronic, progressive shortage of scientific material suitable for publication.

When a man writes a scientific paper he should consider the scientific accuracy of his brain child as well as the question of where its publication will do the most good. The other side of the river is not always greener.

Mushrooming national medical publications with their full time advertising agents and public relations men have produced another area of keen competition for state journals. Some drug manufacturers believe

it is more rewarding to advertise in national publications than to bother with a number of state journals of individually limited circulation. Certainly it is cheaper to reach 150,000 doctors through a single publication, however even though some companies have abandoned state journals in favor of a wholesale market they are still unsure of the relative value of "local" versus national advertising.

Another conjectural matter is whether doctors would rather read advertising in a state journal or whether they prefer to plow through pounds and piles of direct mail advertising. Secretaries, postal authorities, janitors and state journals wish the direct mail approach would be abandoned immediately—the considerable expense involved could be used much more effectively elsewhere.

A doctor who reads the *Journal* does more than learn what his neighbors and colleagues have done in the science of medicine, he also learns what his representatives are doing in the State Association and he learns which pharmaceutical companies believe in supporting medicine at the state level.

Presidential elections represent the will of the people who vote in them. In the same way the course and the future of the *Journal* will be profoundly affected by whether or not you complete the enclosed questionnaire. □

Medical Care Threatened If Hospital System Collapses

DIRECTORS of the Philadelphia County Medical Society have warned that legislation to provide hospital care for all persons 65 and older "would result in a collapse of hospital care in this country." They called for the "active cooperation and help of professionals and legislators to preserve and improve the health care now available."

In a statement published in the society's magazine, *Philadelphia Medicine*, the doctors

called the Gore Amendment to add Medicare to Social Security a "bad bill." The amendment failed to get Congressional approval before the recent election.

These doctors emphasized their concern about the cost of health care. To help control hospital costs in Philadelphia they listed some recommendations that have been proposed by a group of various citizens who make up a "task force" of the greater Philadelphia Chamber of Commerce. The "task force" recommendations include: adding new acute disease beds only where they are needed, adding new chronic disease beds, improving the use of existing facilities, introducing intensive care and self care units, reviewing the records of any patient confined to the hospital more than 14 days, improving and increasing nursing homes, developing home care programs, operating diagnostic and treatment facilities every day instead of only five days a week and training more paramedical personnel.

"As we see it," they said, "the provisions of the Gore Amendment would swamp our acute disease hospital facilities because Philadelphia does not have enough beds now for chronic disease patients." Beds for acute, short term patients are expensive to maintain. Chronic beds, for long term patients who can do much to care for themselves, may cost only a third as much. But, the statement points out, "there has been little stimulus to build new facilities for chronic patients" in Philadelphia.

"Contrary to some campaign oratory," the statement concluded, "we have excellent medical care in this country. When we attempt to increase the distribution of this good medical care, let us not destroy the quality which we have attained." □

Managing The News

A RELATIVELY NEW phenomena has been recognized in our democracy of *the people*—managing the news interpretations to be seen *by the people*—resulting in myopic opinion-control for the people.

We have observed the short-range effectiveness of news control in socialistic coun-

tries and under dictatorships, and now that we are having our own struggle for the minds of men within the framework of our own beloved country, we are experiencing a more subtle but no less effective effort to manufacture unanimity of thought.

Under the guise of protecting our national interests (or to be gingerly with the national interests of others), we are often fed erroneous facts or misleading interpretations regarding important matters of foreign policy.

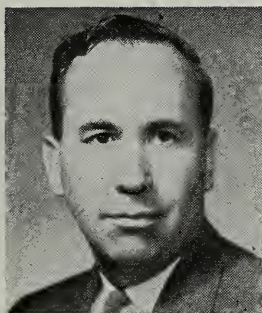
A recent example occurs when a U.S. Senator is dispatched by Democratic leaders to South Viet Nam to obtain a first-hand report on our nation's involvement, and contrary to the more expert opinions of countless knowledgeable observers, he reports back that we are actually *winning* this political-military struggle.

Granting that there may be some small excuse to distort news of foreign affairs in these days of worldwide political poker, there cannot be any rationale in a democratic society to mislead the people regarding domestic policy. Yet we see this every day from the makers of news—the political party leaders who are selling us program after program based upon misstatements or exaggerations of need and fired by the flames of emotion.

Few Americans even know the basic provisions of the great domestic issues of our day, much less understand the social, economic, moral, legal, or philosophical implications involved. Worse still, the advocates of such issues make no apparent effort to assure the full understanding of the citizenry before enacting multi-billion dollar legislative programs.

Many popular magazines have joined forces with the opinion-makers until the independent thought of free Americans is threatened by overexposure to the views of governmental and socialistic planners.

Perhaps 200,000 physicians can strike a counter-blow against managed news by better management of the reading material in their waiting rooms. *U.S. News* and *World Report*, *Readers Digest*, and the *National Observer* are among the popular publications which still report objectively and usually generate light rather than heat. □



The New Year is with us but the old problems are still here. As we look back over the last year with all the hard work expended by many of our members and then evaluate the advances that we made, it makes us look forward to the coming

year with apprehension.

The question is often asked, "What should we do next?" "Should we compromise or just submit to whatever fate may have for us?" I think our National President, Doctor Donavan Ward answered all these questions in his address to the House of Delegates at Miami Beach in December.

Doctor Ward contended that if we were right in the beginning, we are still right. We must and we will continue to fight for what we know to be the best interest of the people of this nation. We are not without allies that are strong, capable, reliable, and willing to assist in our battle to give the American Public the medicine that they need and must have. To compromise is to surrender, we are not made of this grade of metal. Even in defeat we will not melt.

The House of Delegates went along with Doctor Ward and the Board of Trustees and immediately ordered the staff to begin to study ways to strengthen the Kerr-Mills programs over the nation.

We of the Oklahoma State Medical Association resound with a loud AMEN. Following a set back, we should not fall back in all

directions. We must regroup, study our future course, plan our strategy, then proceed with positive, effective, and united vigor. The challenge has been given; we now have an opportunity to be citizens of the stature that our forebearers predestined us to be.

For this year, let us all dedicate ourselves just a little more to the cause that we believe in; work a little harder; and longer; and with more purpose. With this dedication, all will not be lost. The battles will be long, many, and hard; all of them will not be won but we will emerge feeling that *we have done our utmost*.

May I again re-emphasize the words of Doctor Ward. "No more can be asked of us as citizens. No less should be offered by us in guarding our heritage of freedom." With the dedication and courage of the leaders of our profession that was demonstrated at the recent interim meeting, we can take heart in the final outcome.

* * * * *

May I take this opportunity to invite all of you to start making plans to attend the 1965 Annual Meeting. This meeting will be held in Tulsa and for the first time in our new Assembly Center. The annual meeting committee, under the Chairmanship of Doctor Howard Bennett, has been hard at work for months to bring you an outstanding scientific program and something new in the way of entertainment. So, mark your calendar for May 14th, 15th, and 16th—for a weekend of value in Tulsa!

HAPPY NEW YEAR. □

Harlan Thomas MD

VERTIGO

DICK LOWRY, M.D.

The diagnosis of vertigo is often difficult. It is the hope of the writer that this will help somewhat to simplify the diagnosis of this puzzling disorder.

THE MASTER MECHANISM controlling our motion is a modest little sense organ housed in the walls of the labyrinth deep in the ramparts of the temporal bone in the middle of the skull. It is the most important sense organ contributing to maintaining balance. Dysfunction of the labyrinth or of its central connections in the vestibular nuclei is therefore the most frequent cause of vertigo.

In addition, the cerebellum and the temporal lobe and visual cortex are closely interrelated with the vestibular nuclei.

Patients with true vertigo usually describe a sensation of motion, either subjective vertigo (he is moving in space) or objective vertigo (his environment is moving about him).

The labyrinth consists of three semicircular canals and the utricle. The utricle provides information about the position of the

head, and the semicircular canals register motion, changes in the rate of motion or change in direction.

The physiology of equilibrium may be briefly stated as—

- 1) Vision—for spatial orientation.
- 2) Body position — by proprioceptors in the neck, trunk and limbs.
- 3) Awareness of position and movement of the head by the vestibular apparatus.
- 4) The integration of these sensations by the cerebellum, the posterior longitudinal bundle, vestibular nuclei and red nuclei which are interpreted by the cerebrum.

Therefore, vertigo may be a symptom of disease in any one of these systems.

As to the diagnosis of vertigo—first, the patient must have a sensation of motion—whether he is spinning, or the environment is spinning is not important. The direction of spinning is more important because sudden stimulation of one labyrinth or its central connections produces a sense of reeling to the opposite side, while sudden destruction produces the reverse. Most vertigo results from unilateral lesions—that is the sense of spinning is usually toward the opposite side of the head.

There are four conditions which often provide problems in differential diagnosis:

- 1) Meniere's disease.

- 2) Acute labyrinthitis.
- 3) Cerebellopontine angle tumors of which eighth nerve tumors are most common.
- 4) Vascular insufficiency of the basilar artery or its inferior cerebellar branches.

There are many causes of vertigo but only these four will be considered in more detail. The first two, Meniere's disease and acute labyrinthitis are both peripheral or labyrinthine types of vertigo, as opposed to the central vertigo of eighth nerve tumors and insufficiency of the basilar artery. It is thought there are 10 to 1 more patients with peripheral vertigo than there are of central origin.

Postural or positional vertigo in which the patient has vertigo on changing positions or upon assuming a certain position may be of either central or peripheral origin. The diagnostic criteria used here finds that on positioning the head in the position that causes vertigo those caused by a central lesion have nystagmus as soon as the head is placed back and continues as long as the position is held.

Those with a peripheral lesion have a latent period of some seconds before nystagmus appears but this disappears in a few seconds even though the position is held.

Let us first consider vertigo of central origin. In general, and I am speaking of tumors now, not thrombosis of an artery, the vertigo is not severe and usually has an insidious onset. Many patients seek help because of other symptoms of intracranial disease such as palsy, ataxia or failing vision. There is a widespread impression that vertigo is a common symptom of brain tumor but this is not true. It is seldom associated with cerebral lesions. It is more commonly associated with disorders of the posterior fossa, particularly the brain stem. However, it is usually not episodic nor is it severe.

Dick M. Lowry, M.D., graduated from the University of Oklahoma School of Medicine where he is now Associate Professor of Otorhinolaryngology. He is certified by the American Board of Otolaryngology and is a member of the American Academy of Otolaryngology.

Tumors of the cerebellopontine angle may cause ataxia but rarely vertigo, however when vertigo does occur it is usually mild and transient. Lesions of the brain stem which are more apt to cause vertigo are encephalitis, multiple sclerosis and vascular accidents. Vertigo is sometimes the first symptom of multiple sclerosis so this disease must be kept in mind at all times. Vertigo caused by insufficiency or thrombosis of the basilar artery and its branches causes sudden, severe vertigo associated with loss of pain and temperature sensation in the face, paresis of the palate and vocal cords, and a Horner's Syndrome. Other signs of cranial nerve involvement are nearly always present in vertigo of central origin, for example, diplopia, paresthesia, persistent nystagmus, etc. Therefore a neurological examination should include the cranial nerves and tests for corneal anesthesia.

Eighth nerve tumors (the most common tumors of the cerebellopontine angle) cause:

- 1) Tinnitus (which is apt to be so mild that patients have to be questioned specifically).
- 2) Unilateral severe deafness of a nerve type.
- 3) Headache of mild to moderate nature usually in or behind the involved ear.
- 4) Nystagmus which is first detectable when the gaze is directed toward the side of the lesion.
- 5) Caloric test shows no reaction.
- 6) Spinal fluid protein usually more than 70 mm. per c.c.
- 7) Destruction of the internal auditory meatus shown on roentgenograms.
- 8) Involvement of other adjacent cranial nerves is frequently present.

Treatment, of course, is surgical intervention.

In contrast to the mild vertigo of eighth nerve tumors is the intense explosive vertigo of thrombosis of the basilar artery or its branches. These people are usually prostrate with nausea, vomiting and severe dysphagia. Nystagmus, pharyngeal and laryngeal paralysis, Horner's Syndrome and other cerebellar signs are usually present. Recurrent attacks of basilar artery insufficiency, which is a momentary vertigo associated with diplopia and confusion, should lead one to suspect an impending thrombosis of the ar-

Vertigo / LOWRY

tery and early treatment with bed rest and anticoagulants is indicated to prevent further neurological disorders.

Meniere's disease. The cardinal symptom in Meniere's disease, is vertigo, which is frequently of a sudden explosive nature. It is associated with tinnitus often of a roaring character and a unilateral impaired hearing. Vertigo is measured in hours not in seconds, days or weeks. Tinnitus is constant and not synchronous with the pulse. A hearing loss of the nerve type especially to low tones is typical. Displacusic, the hearing of a pure tone, in the affected ear is of a higher pitch than in the unaffected ear is frequently present as is the phenomenon of recruitment which can be tested with a tuning fork wherein a softly ringing fork can be heard in the good ear but not in the bad ear. However, when the fork is struck harder the patient states that it is equally loud in each ear. This is the phenomenon of recruitment.

Acute toxic labyrinthitis is probably the most frequently encountered cause by vertigo. Typically the attacks of vertigo coincide with a febrile upper respiratory tract infection or general malaise. The attacks last several days to a week or more. The onset is usually sudden and resolution is gradual. Positional vertigo may outlast other symp-

toms for weeks. The vertigo is not so intense as that of Meniere's disease. Deafness is lacking and tinnitus, if present, is mild. Visual signs are diplopia or nystagmus, if present, disappear in a day or two. A prominent sign is evidence of infection as shown by an elevated white blood count and sedimentation rate.

This table shows the main differences between central and peripheral vertigo:

	Central	Labyrinthine
Onset	Gradual, Continuous	Sudden, episodic
Intensity	Mild	Severe at onset
Duration	Weeks, Months, years	Minutes to days
Deafness	Rare, except eighth nerve tumor	Common
Tinnitus	Rare	Common
Diplopia	Pathognomonic	Never
Neurological Examination	Positive	Negative
Otologic Examination	Usually negative	Usually positive
Caloric Test	Normal except in eighth nerve tumor	Hypo-active
Protein in C.SP.F.	More than 70 mg per c.c. in eighth nerve tumor	

900 N.W. 10th, Oklahoma City, Oklahoma

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CALL FOR COMMUNITY SERVICE AWARD NOMINEES

All county medical societies are urged to submit nominations before March 1st for the first annual Oklahoma State Medical Association Community Service Award.

A handsome, engraved plaque will be presented during special ceremonies at the 1965 annual meeting to the physician selected for outstanding contributions to his local or state community in a civic, cultural or general economic sense. The plaque is to be furnished by the A. H. Robins Company, which is sponsoring the promotion nationally "to build the community service image of the physician."

The form of the nominations will be left to the discretion of the nominating county medical societies, but it is recommended that a comprehensive letter of nomination be submitted by the president of the nominee's county medical society detailing the accomplishments of the physician in the field of voluntary community service. Supportive documentation of such accomplishments could be attached to the nomination letter.

The Office Management of Pathological Aggressiveness in Adolescents

BLAINE E. McLAUGHLIN, M.D.

The author's experiences with disturbed youngsters while directing a psychiatric clinic in Philadelphia should be useful within the framework of a busy office practice of medicine or surgery.

AS PART of our work in teaching psychiatry to medical students and residents at the Woman's Medical College of Pennsylvania, in Philadelphia, the author and his colleagues over the past eighteen years have developed clinics around the focus of major psychiatric problems within the framework of a great industrial city. One of our most interesting endeavors has been working with existing social agencies, the school board medical department and the Prison and Parole Systems of the State of Pennsylvania in the handling of pathological explosive behavior in adolescents within our community. Most of our students and residents will go on into general practice or the practice of internal medicine and surgery rather than into specialized psychiatric practice. It has been our feeling, therefore, that our clinical teaching should be focused on techniques which might be readily applicable to office practice in a non-psychiatric field. The Manhattan Study has suggested that 81 per cent of the population of a great metro-

politan city are emotionally disturbed to the point of needing some sort of psychological therapy. If this is true of the country at large, it is obvious that most emotional problems will have to be handled within the daily routine of practitioners who are not specially trained or specially limited in their practice to psychiatric techniques.

Our clinics, have, for a long time now, tended to take the community psychiatric approach of attempting to train our young people in procedures which can be readily applied on a wide social basis. This report concerns our experiences and results with that group of patients so much a part of the urban scene, namely, the youngster who is causing havoc both to himself and to his community during the years of his development.

As a start, let us consider for a moment, the basic psychiatric beliefs and understandings concerning anxiety and aggressive behavior. In the unconscious mind, in every individual, the strong instinctive drives (the id) come in conflict with the training pattern of early life (the superego). Out of this conflict, anxiety wells into the conscious mind. Anxiety is such an overwhelming force that for any individual to stand it, he must modify it by the use of his mental mechanisms of defense. While these can be technically named such things as projection, introjection, introversion, sublimation, etc., etc., for purposes of teaching we usually break them into three groups. The individual can aggressively attack or fight his problem, directly. He can deny or escape

Presented at the Oklahoma City Clinical Society Meeting, October 26th, 1964, in Oklahoma City.

from the conflictual problem, or he can give in to the overwhelming forces of his environment submissively and passively. In our studies over the years we find that adolescents unlike middle-aged or older people, have great difficulty in psychologically denying or escaping their problems. Because of their biological upsurge of energy in this period, they cannot, successfully, passively submit to the forces of their environment. A biological need of the adolescent is to spend most of his energy fighting, directly, the conflictual problems of his life. Perhaps this is a necessity in preparing him for the huge conflicts of later life. In any event, we have had very little luck in modifying the aggressive behavior of young people. We have simply been faced with the overwhelming problem of helping the youngster to channel it more successfully.

Let's give a couple of cases to point out the two extremes in the pathological use of aggressive behavior.

The first case, Donald B, is nineteen and was referred to us by the Parole Board of the State of Pennsylvania, after being in prison for two years for a minor theft. The youngster's background, so characteristic of this group, reflects a childhood home situation in which the Mother was dominant and the Father was unsuccessful and passive. The Father abandoned his role and retreated into the happy world of alcoholism leaving all authority in the hands of a rather hostile and unsatisfied Mother figure. The first theft was a rebellion against Donald's concept of authority which had crippled him in his school adjustment and in his seeking employment. He had dropped out of High School and found himself poorly equipped for the industrial community where he was another unemployed unit in a market already crowded with other young people. In prison his aggressive behavior was curbed rather brutally and there was a great deal of sexual suppression because of his exposure to much acting out homosexuality. Coming out of prison and taken under the wing of the Parole Board, meant under Pennsylvania Law, that he should have psychiatric guidance. Being sent to our clinic for supportive psychiatric therapy and

drugs, was a part of this regimen so often applied on a more or less impersonal basis in the large industrial city. Nevertheless, some rapport was gained with Donald and, with the help of the Parole people, he obtained employment and started to build up his relationships with a "nice girl" from his own neighborhood. He seemed to be going along well, and with the use of an experimental phenothiazine drug, we had curbed some of the more explosive hostility of his behavior. After three months of therapy and having run out of the phenothiazine several days before, the patient had a date with his girl in which there was apparently sexual play which stopped short of actual intercourse. Going home from the date, in what he admitted afterwards, with some sexual tensions, he saw an open window and reached through to rifle a cash register of \$4.00. A policeman standing by apprehended him in what looked like an explosive action of aggression which was almost asking for immediate punishment.

We are again taking an interest in Donald. With two strikes against him and with his inability to control sexual frustration, it is doubtful if he will ever be a really creative member of our community.

Let us look now at a very different case in terms of its social, economic, intellectual background.

John B. was approximately nineteen when he committed suicide. He came from a private school adjustment and from what seemed to be a very loving family. His Father was president of a successful advertising firm and lived in a huge house in a socially elite neighborhood. The boy had every material advantage. He was intellectually superior. His body was of the athletic type and without apparent defect. The home structure was one dominated rather subtly by a strong Mother who took over the care of the children in her husband's absence. The Father, no doubt, thought of himself as a very good provider. He had risen through the ranks and had become extremely successful in his work. His work dominated his thinking and his life. His relationships with his son were those of authoritative direction rather than human identification. He thought constantly in terms of what his son would do professionally. As a graduate

of one of the great universities, he insisted on his son entering this university as a freshman in the field of law although the boy wanted to go into the biological sciences. The boy, unfortunately, failed one course his freshman year and the Father very aggressively insisted that he make the course up in summer school. During the summer school he hanged himself.

In these two cases we have the separate poles of pathological aggressiveness. In the first case Donald found when his male sexuality began to emerge, no human model for identification in a Father or even in an accepting community. He found authority a hostile, feminine figure. Obviously his rebellion against this type of authority led to his first pathological behavior and the prison situation, with its twisting of his developing male personality, led to his inability to accept frustration in the developing sexual situation with the "nice girl" figure.

In the second case, John had no opportunity to rebel against overwhelming authority. The authority of his Mother, so kindly on the surface, was in a covert way, dominant and because of his Father's complete engulfment in professional life there was no human identification of the developing male with an adult model. Blocked at all points, his aggression turned back on himself in the basic act of human rebellion, suicide.

Our clinics are filled with patients like these prototypes. We get referrals every week from the Philadelphia School System and referrals on an average of once a month from the Parole System of the State. One of our patients is on parole for having shot his Father. Many of our adolescent girls are involved in precocious sexuality and prostitution.

Is there any hope of handling these reactions in a practical way within the aver-

age office situation? Basically, our belief is that they can be handled only if an alert physician recognizes the needs of the adolescent and can help to divert his aggression before it reaches a pathologic level. As a truism I always say to general physicians, "when a boy threatens to kill his Father, sit down and talk with him about it for a least half an hour." "When he shoots his Father, send him to me so that I may handle him in relationship with the Courts and the National Institute of Health as a psychiatric research problem." Obviously, this is oversimplifying the matter but I think the essence of office management is present in these remarks. First, the alert practitioner has a good grasp of the whole family situation in every adolescent that he has under his care for any length of time. Secondly, he must be alert to the idea that aggressive behavior in youngsters cannot be handled by the mechanisms of transference and denial, which are so commonly used successfully in older people. Tension in a seventeen year old who is failing his history, cannot be handled by prescribing a trip to Miami, which is often successful in relieving the tension of losing the vice-presidency in a fifty year old. The alert, non-psychiatric physician in private practice must use his authority in a non-hostile fashion to curb the over-reaching authority of parents who are many times unconsciously hostile towards their own youngsters. Educating families and the community to the needs of adolescents is of overwhelming importance in the hands of every physician. We found great value in working closely with various social agencies, with churches and the schools. Non-medical people often forget the great sexual tensions and over-reaching enthusiasm of adolescence. These things must be recognized by all elements of the community if we are to avoid the type of pathologic expression that our cases represent. Finally, the physician, regardless of his practice, should represent, to youngsters, a human understanding and yet authoritative figure in the real world we wish the youngster to join.

In Philadelphia we find that the most aggressive racist leaders are often revered by youngsters who have turned away from the mainstream of their community because

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they were frustrated at every point in attempting identification. The drop-out on the corner, without the possibility of a job and with no type of acceptable sexual identification, finds it easy to identify with a mob which will accept him as a peer.

The recent race riots in Philadelphia, we understood, were spark-plugged by youngsters mostly under twenty years of age. In our society more than the clergyman, more than the judge, certainly more than the policeman, the doctor is considered an authoritative rallying point for anyone with behavior difficulties. The golden opportunity is to spend some time with the youngster to show him by word and deed that while you are a part of the mainstream of adult life, you haven't forgotten what it is like to wrestle with the conflicts of adolescence. Be real with your patients but don't accept the unnecessary barriers which an unthinking society often applies to youngsters unrealistically. In boys I often find a positive identification in the world of automobiles. Many times helping the family to make it possible for a youngster to get a hot-rod or to join a racing group has made the difference between pathologic explosion and aggressive creativity in school and in life. Use drugs sparingly with these youngsters as a brake for pathologic aggressiveness.

Remember that if the engine is going full steam any drug, like any brake, burns out rather quickly.

It seems obvious to us in our many years of practice with these aggressive youngsters, that the Father has failed in his role as a parent particularly for the adolescent. Apparently, much of this is because of the great emphasis placed on professional or business success in our American Society. Talking together in our department, we have often felt that for the male, American life goes somewhat like this: At ten, light conversation with other males concerns hot dogs; at twenty, definitely dancing girls; at thirty, briefly and for the moment, the infant children; by forty it must be the stock-market; by fifty favorite charities; and at sixty, success in the flower show. Where does the Father role fit into this life? Only briefly for the infant and early developing child. Certainly the adolescent has no place in the real life of the American male figure. With no place to identify at home, the family doctor is the key figure to bridge the gap between adult authority and human identification. With this in mind, I believe that the role of every physician is of critical importance in prevention of what is becoming a national scandal — the emotional explosions of the adolescent. □

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SPEECH TRAINING SEMINAR PLANNED

The OSMA Council on Public Policy has announced a statewide Speech Training Seminar for all physicians, to be conducted in Oklahoma City on November 12th and 13th, 1965.

Smith, Kline and French Laboratories, through its Speech Training Service, will present the course for all persons interested in improving their public speaking abilities. The program will feature the fundamentals of manuscript preparation, effective speech delivery, extemporaneous speaking, handling questions from the audience, and will provide opportunity for participants to rehearse what they have learned.

A detailed program and invitation will be mailed to all OSMA members in advance of the seminar.

Abuses and Uses of Ultrasound

HERBERT KENT, M.D.

Ultrasound therapy is not a panacea for ill defined pathological processes. Biophysical knowledge is necessary for intelligent usage. Certain abuses should be avoided during treatment.

THE THERAPEUTIC value of ultrasound therapy has now been established.^{1,2} Nevertheless, enough controversy still exists regarding variable results obtained by investigators that it behooves us to take a second look at our methods. In many cases, opposing views, although sincerely held, may be based on evidence derived from ill-conceived or technically poor studies. It is the latter group with which we are concerned at this time.

Where untrained technicians or therapists are employed, abuses are very apt to occur. If there is to be a definitive purpose for ultrasound in our therapeutic spectrum, should not one expect intelligent and satisfactory performance from our therapists? This presentation is to emphasize those

technical areas where deficiencies have been encountered and how they may be corrected.

INTENSITY

Thermal pain is usually due to excessive dosage. Excessive dosage may be defined as any intensity causing patient discomfort.

One must recognize that not only is there a tolerable range of intensities (e.g. 0.5-2.0 watts/cm²), but also that this may be variable at any instant of treatment. For example, when the fluid medium thins out, the intensity is directly proportional to the couple and the dosage decreases. If the transducer is held at an angle, points of high propagation, uncertain phase shifts, may cause "hot spots."

Variations in energy distribution due to arrhythmical motions of the sound head, particularly when avascular tissues are treated, result in shear waves and heavy absorption locally. Trauma intrafascially can cause edema and fibrin formation. So-called periosteal pain can be avoided by recognition of this abuse.

Other abuses are inherent to the therapeutic instrument somewhat akin to short-wave diathermy. With few exceptions, indicating meters are connected to the plate circuit or feeding circuit of the piezo-electric crystal or vibrating transducer. Although meters are calibrated in watts per square

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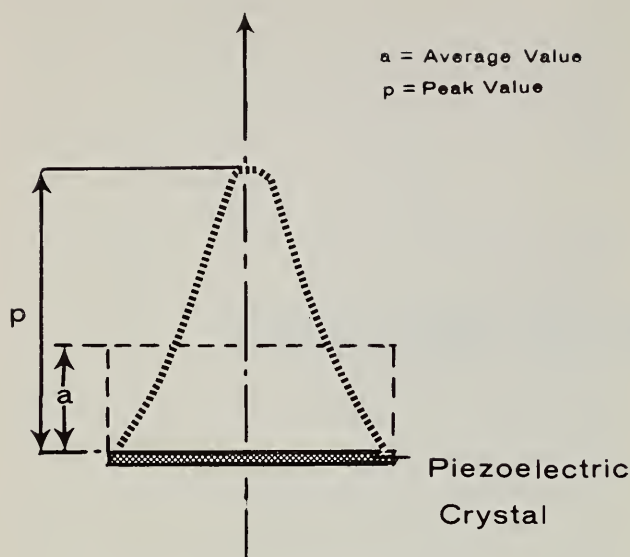


Figure 1

centimeter or integrated to total watts, it should be emphasized that they give readings even when the transducer is not applied to the skin. Dosimetric indication should occur only when the tissue is in intimate acoustical (couple) contact with the sound head.

It is not only essential to know the total energy produced by the apparatus during each application, but also how much is absorbed by the treated area. Obviously, the total acoustic energy absorbed per square centimeter is the main factor in therapy. The meter registering watts per square centimeter of the transducer is an average value of the surface. In addition, many are not aware that the central portion of the sound head vibrates over two and a half times more than the peripheral portion. (figure 1) Therefore, one wonders whether the wattage is an actual dose and whether we really are aware of tissue effects of ultrasound under these circumstances.

Another more common abuse occurs when the under-water method of treatment is used. Since water absorbs a quantity of energy, dosages should be raised to the higher levels for satisfactory physiologic effects.

COUPLING

For the unschooled, there are instances where treatments are applied without cou-

pling mediums. Since the transmission of energy by ultrasound wavelengths requires appropriate media, it is essential that this potential abuse be kept in mind at all times.

Tap water during its filtration process is aerated to remove undesirable odours and to improve taste. If this is used, bubbles of air serve as a mechanical barrier to sonation. Another abuse is in the use of water baths for irregular surfaces, large areas or joints, the presence of dissolved air impede and detract from a maximum conveyance of energy. Hot water is more likely to contain dissolved air bubbles than cold water. Emulsions, creams and lotions are also not satisfactory for coupling media for this reason.

DURATION

How long should a treatment be? Patients have been treated from one to thirty minutes or longer. Obviously, this lends itself to major abuse.

When the stationary method is employed, thirty seconds of treatment may be excessive. On the other hand, when the technic is unsatisfactory, sixty minutes may be ineffective. Often patients are treated for apparently a reasonable length of time, but in actual fact they are only subjected to brief moments of physiological ultrasound. False motions may only be an illusory effect.

The use of "continuous" ultrasound requires different periods than "pulsed" ultrasound. The former is more likely to produce heat discomfort than the latter.

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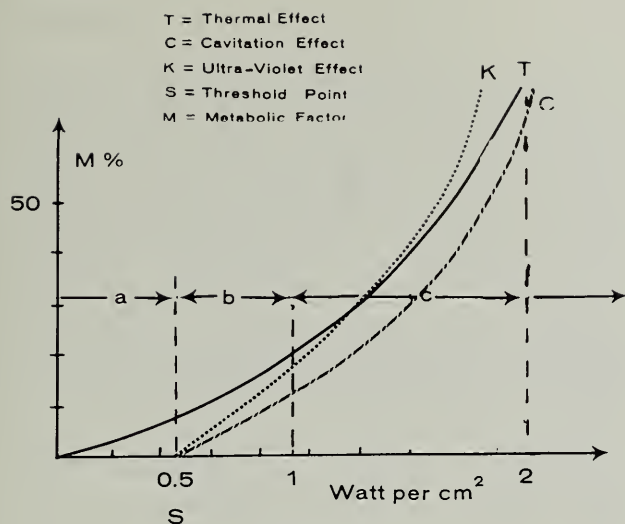


Figure 2

Now that we have discussed some of the worst abuses, what about the genuine uses of ultrasound? Perhaps a brief review of the biological effects is worthy of repetition.

As in any treatment employing radiation, dosage must be carefully chosen and maintained throughout the length of application. The range of biological action has fairly well defined limits. This safety margin should be kept in mind when presenting dosages.

Recent studies have confirmed the three principal effects produced by ultrasonic waves. In this country, we have tended to employ wavelengths of one megacycle. Therefore, let us discuss each of these in order of their therapeutic importance.

1. Thermal

Heat production is not qualitatively different from that produced by luminous (heat lamp) and non-luminous sources (short-wave diathermy). The heating effect in a biological non-homogenous medium is seen as a gentle (figure 2) sloping curve: "a" is the range where the ultrasonic effects are harmless or ineffectual, "b" is the range where therapeutic effects begin, "c" is the range for harmful or destructive effects.

Since pain, either superficial or deep, is a warning sign, most physicians use the low intensity range. The result is that when the technic is poor the intensities are of a low order and therefore ineffective. It is no wonder that treatments with ultrasound become discredited.

2. Cavitation (C)

This effect results in a micromassage of tissue in lower dosages. However, because of the presence of gas in physiological fluids, these bubbles are easily compressed and altered in shape. They then vibrate and after a certain resonance point is reached, they may burst. Consequently, dosages must be kept within a margin of safety.

3. Chemical (K)

"S" is the point where both cavitation and chemical effects begin. When gas bubbles are resonating and burst, they form hollow spaces of low gas pressure and the appearance of luminescent discharge effects. The combination forms free chemical radicals like ultraviolet light. These radicals are stimulating when produced in low intensities. However, this effect is not seen at the generally employed therapeutic intensities of ultrasound.

INDICATIONS

When considering therapeutic indications, ultrasound as a therapeutic tool should be employed with as much consideration as with other chemical and physical measures. In 1952, the then Council on Physical Medicine and Rehabilitation in considering the uses of ultrasound, suggested that no clear evidence was available that it was a specific treatment for any disease. Rather, if applied properly, it was a useful *adjunct* in producing relief from symptoms such as pain, soreness or tenderness associated with:

- 1) bursitis, periarthrits, fibrositis, tenosynovitis, myofascitis
- 2) rheumatoid and osteoarthritis
- 3) non-paralytic forms of neuritis, such as sciatica and painful stump neuromas

Therefore, *clinical applications should be the direct concern of the physician* who considers and modifies therapies in the light of the changing course of disease.

According to present knowledge and experience, the following considerations for applications of ultrasound are in the areas of certain muscle, ligament, nerve and vessel disorders.

1. Muscle

Possibly of greatest importance is the relief of pain and spasm whether caused by

a myositis or traumatic injury. Ultrasound is particularly helpful in muscles which pass over or near joints, e.g. deltoid, erector spinae, gluteus maximus, etc.

2. Ligament

Capsular or tendinous involvement of an inflammatory, non-bacterial nature, frequently responds well to sonation. In particular, where adhesions are producing impairment of joint range, ultrasound used in conjunction with therapeutic exercises produces beneficial results.

3. Nerve

Modification of somatic sensory nerve impulses, particularly in the posterior primary rami, are helpful in treating radiculitis or neuritic affections of known pathology. Stump neuromas have been rendered less painful by such treatment.

4. Vessels

With an intact and disease-free vasculature, the thermal effects can improve some circulatory states, e.g. muscle spasm, vasospasm, hematoma, muscle calcification, etc.

There is no doubt that ultrasonic therapy has been abused. Some of the criticisms outlined have been given to throw light on the general field of application. Even the most ardent advocates readily acknowledge that our perception of ultrasounds' dangers should not preclude its being employed when justified. For optimal effects, one must in particular recognize: intensity, coupling and duration parameters. Due consideration of the thermal, cavitary and chemical manifestations is necessary for physiologic therapy. Finally, indications for adjunctive usage is directed to muscle, ligament, nerve and vascular components of the pathologic state. Only then, will we be justified in claiming a therapeutic action for ultrasound. ☐

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- 5:30 p.m. THYROID FUNCTION DURING PREGNANCY
Warren Crosby, M.D.

EVENING SESSION

- 7:30 p.m. NATURAL HISTORY OF THYROID NODULES
Carl Smith, M.D.
- 7:50 p.m. MANAGEMENT OF THYROID NODULES
G. Rainey Williams, M.D.
- 8:10 p.m. PANEL: TREATMENT OF HYPERTHYROIDISM
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Significance of Recent Advances in Lipid and Carbohydrate Metabolism

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The "diabetic state," long considered primarily a disturbance of carbohydrate metabolism, also may be a condition of altered fat metabolism. This article brings the clinician up-to-date with the results of current research.

INTRODUCTION

EARLY OBSERVERS of the phenomena of life were impressed that normal man did not vary greatly in size from year to year in spite of the fact that he was constantly ingesting large amounts of food. Furthermore, it was apparent that in spite of relatively long periods without food, his body was able to function more or less continuously. These early investigators, noting that the amount of food and drink ingested exceeded that of the feces and urine eliminated, concluded that the difference represented the amount of "energy" necessary to provide the function.¹

Further developments in the science of metabolism awaited the discovery of oxygen,

carbon dioxide, hydrogen and nitrogen. The modern era was introduced by Lavoisier in 1780. He declared that the basic processes of life were those of oxidation with the resulting elimination of heat. He found that the quantity of oxygen absorbed, and carbon dioxide liberated, depended primarily on the type of food utilized, the amount of work performed and the temperature of the environment. Though the form of his apparatus was known, his analytic methods were not, for he was executed during the French Revolution in 1794, before he was able to publish his results in full. Approximately 30 years passed before other methods were devised to analyze oxygen and carbon dioxide in expired air. With these new tools a number of investigators addressed their attention to the metabolic processes that allowed animals to function continuously while eating only intermittently. They approached the problem logically by studying metabolism during periods of starvation.¹ They soon learned that the ability of an organism to withstand a prolonged fast was, in general, related to the quantity of fat present at the start. The fatter the animal the longer it could starve. During periods of plentiful food supply, it was apparent that the body seemed to use carbohydrate as its major energy source. During starvation, however, it was found that protein and fat were utilized as energy sources to near exclusion

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of carbohydrate. It was noted that repeated fasting, not prolonged starvation, "habituated" the organism to the almost complete oxidation of fat. Chemical analysis of the blood showed that fasting was associated with an increase in blood lipids, and that blood sugar remained remarkably constant even during a prolonged fast. In fact, blood sugar even rose in the later stages of starvation as protein breakdown increased. By the early part of the 20th century the isodynamic law of foodstuffs had been formulated. This law states that various foods may replace each other as a substrate for tissue use in accordance with their heat producing value. A cell may thus "burn" either glucose, fat, or protein for its energy. The explanation of the mechanism of this interchangeability was not known. It soon became obvious, however, that it was all directed toward the production of a relatively constant level of blood sugar. Indeed, the maintenance of a constant level of glucose in the blood is one of the most closely guarded of all homeostatic mechanisms.

A disease characterized by an excessive thirst and passage of sweet tasting urine (diabetes) had been recognized in clinical medicine since ancient times. However, the foundation of modern knowledge of the subject is credited to Minkowski, who, in 1877 removed the pancreas of dogs and demonstrated that such animals became diabetic.¹ Investigations subsequently indicated that the abnormalities of glucose metabolism found in diabetes were much more complicated than simple pancreatic deficiency. Later experiments in which various organs were removed from animals showed that absence of the liver, thyroid, pituitary and adrenal glands were all associated with derangements in carbohydrate metabolism. Although such animals were subjected to severe environmental, dietary, and other stresses which would tend to make the conclusions less valid, the importance of each of these organs in carbohydrate and fat metabolism was established. In spite of such complexities it became apparent that two major divisions of abnormal carbohydrate metabolism existed. The first included those states, such as pancreatic insufficiency, in which the or-

ganism was apparently unable to use the abundant amount of glucose available. Such states are characterized by the lack of insulin and may be reversed by the administration of insulin. A second division included those states in which the abnormal carbohydrate metabolism occurred in the face of apparently adequate amounts of insulin. These conditions consisted of diseases of the thyroid, dietary abnormalities and psychic stress. Further insight into this problem awaited the technical developments of the past decade which have permitted investigators to reaffirm and define, with a great deal of precision, the dynamic and intimate inter-relationships of lipid and carbohydrate metabolism as well as sites of insulin action.

The traditional concept that glucose is the major energy source of the body is now seriously challenged. Current concepts indicate that glucose is indeed the chief fuel of the central nervous system and erythrocytes but that all other tissues obtain variable portions of their energy needs from fat breakdown.² The recent formulation of the "glucose-fatty acid cycle" permits a very reasonable explanation for the mechanism by which an animal maintains a reasonably constant level of blood sugar in spite of its eating intermittently. This mechanism is quite independent of hormonal control and assures a ready supply for glucose dependent systems such as the brain and red blood cell. It also provides an explanation for abnormal carbohydrate metabolism seen in "insulin resistant states" such as hyperthyroidism, adrenocortical hyperactivity and hyperpituitarism.³

The main features of the "glucose-fatty acid cycle" are that the intracellular concentration of fatty acids within insulin sensitive cells, such as those of muscle, influences the rate at which glucose can be taken into and utilized by the cell. On the other hand, the

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rate of release of fatty acids from adipose tissue cells is influenced by the intracellular concentration of glucose and insulin.³

Recent advances in the field of lipid metabolism have demonstrated a number of intimate inter-relationships between fat and carbohydrate utilization. It is a distinct possibility that what we have heretofore recognized as primary abnormalities of carbohydrate metabolism may actually be secondary to more fundamental changes in fat metabolism. The purpose of this paper is to review briefly the newer concepts of lipid and carbohydrate metabolism and discuss their inter-relationships with the "diabetic state."

LIPID METABOLISM

The major lipids of blood plasma are cholesterol, cholesterol esters, phospholipids, tryglycerides and fatty acids. The phospholipids are principally combinations of glycerol phosphoric acid and various amino and fatty acids. The triglycerides are combinations of glycerol and fatty acids. In a post-absorptive basal state approximately 95 per cent of the plasma fatty acids are present in ester linkage with cholesterol, phospholipids or triglycerides. The remaining five per cent are mostly attached to albumin and are referred to by convention as "FREE FATTY ACIDS" (FFA).

By definition, lipids are a group of organic compounds which are soluble in non-polar solvents such as chloroform or ether but not in water. The solubility characteristics of lipids have therefore necessitated the body to perform some rather complex machinations in order that they may be transported in blood plasma and across cell

membranes. We know that essentially all lipids exist in plasma in the form of complex molecules containing protein. Although lipids are the major constituents of most lipoproteins, the physical characteristics of these proteins (density, solubility in salt solutions and electrophoretic mobility) provide a basis for their separation. A classification based on some of these properties is shown in table 1. The distribution of lipoproteins has been found to vary in healthy individuals. For example, the concentration of high density lipoproteins is greater in young women than young men, whereas the concentration of low density lipoproteins are greater in young men. In this country, the concentration of low density and very low density lipoproteins tends to increase with age in both sexes. For purposes of orientation, an approximate distribution of the major lipids in the plasma lipoproteins of young healthy adults is shown in figure 1. In disease, increases in plasma lipid concentrations occur almost exclusively in lipoprotein fractions having a density less than 1.063 (zero line in figure 1), floatation characteristics zero to 1000, or electrophoretic mobilities of alpha 2 and beta 1 globulins.

This distribution allows a rough characterization of these alterations by a simple determination of plasma lipids. For example, during pregnancy no significant change in plasma lipid or lipoprotein concentrations occurs during the first trimester. The major alteration during the second trimester is an increase of approximately 25 per cent in the high density lipoproteins. Since these molecules contain chiefly cholesterol and phospholipid, the concentration of these compounds is elevated accordingly (figure 3).

TABLE 1. MAJOR LIPOPROTEIN FRACTIONS OF HUMAN SERUM.

Nomenclature	Sf	Density	Electrophoretic mobility	Approx. conc. (mg./100 ml.)	Approximate percent composition				
					Protein	TG	CE + FC	PL	FFA
Chylomicrons	>1000	<1.006	Alpha-2 globulin	0-200	2	81	9	7	
Very low density lipoproteins	10-1000	1.006-1.019	Alpha-2 globulin	125	7	52	22	18	
Low density lipoproteins	0-10	1.019-1.063	Beta-1 globulin	300	21	9	47	23	
High density lipoproteins		1.063-1.21	Alpha-1 globulin	350	46	8	19	26	
Free fatty acids		>1.21	Albumin	15 ^a	99			0.5	0.5

Sf = Svedberg flotation unit = 10⁻¹³ cm./sec./dyne/g.
TG = Triglycerides
CE + FC = Cholesterol esters + free cholesterol
From Van Duyne, C. and Havel, R. J. Clin. Obst. & Gyn.—3: 326, 1960

FL = Phospholipids
FFA = Free fatty acids
^aConcentration of FFA

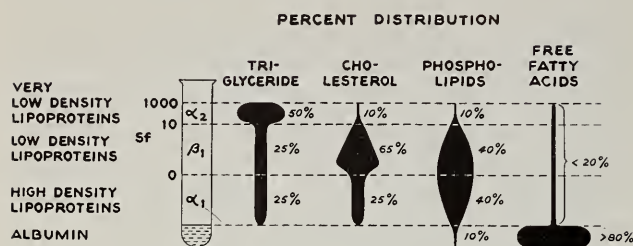


Figure 1. Approximate distribution of lipids in major lipoprotein fractions of human serum.

During the third trimester of pregnancy, the high density lipoproteins show about a 25 per cent increase. The most striking alteration, however, in plasma lipids and lipoproteins during pregnancy occurs in the very low density fraction. This lipoprotein segment increases about 125 per cent above the values in the nonpregnant woman. The associated elevations in both total cholesterol and phospholipids are not surprising since the low density lipoproteins are the major cholesterol bearers of plasma and also contain considerable phospholipids. Since the very low density lipoprotein molecules contain a large proportion of triglyceride one would expect the measured increase in this lipid fraction of blood plasma (figure 3).

During the immediate postpartum period, the plasma concentration of very low density lipoproteins decreases appreciably while high and low density lipoproteins show a lesser decrease. These changes are reflected in the pronounced decrease in plasma triglyceride concentration and lesser changes in the concentration of total cholesterol and phospholipids of plasma.

While we can thus define the "anatomy" of plasma lipids with reasonable accuracy, our understanding of the factors controlling these lipid changes and their precise function is still fragmentary. The chief function of lipoproteins is probably lipid transport. Lipids might be transported for a variety of purposes, such as oxidation, storage, provision of essential structural components of tissues, and provision of precursors of other compounds such as steroid hormones. Certain lipids in lipoprotein, however, might not themselves be transported but simply provide a part of the vehicle necessary for transport of other lipids. For example, cholesterol and phospholipids in the very low density

lipoproteins might provide the structural framework for the transport of triglycerides.

Those fatty acids transported in plasma attached to albumin (FFA) are probably the major form of lipid immediately available for oxidation by tissues. Although their existence has been known for some time, it was not until very recently that reliable methods were available for their measurement. Their chief source is adipose tissue. They exist transiently in blood, as demonstrated by the three minute half time disappearance of isotopically labelled fatty acid. If all the FFA transported in the plasma in 24 hours were oxidized, they would provide essentially all the energy requirements of the body. The net release of fatty acids from adipose tissue at any one time is the sum of the metabolic factors that influence breakdown and resynthesis of the triglycerides of

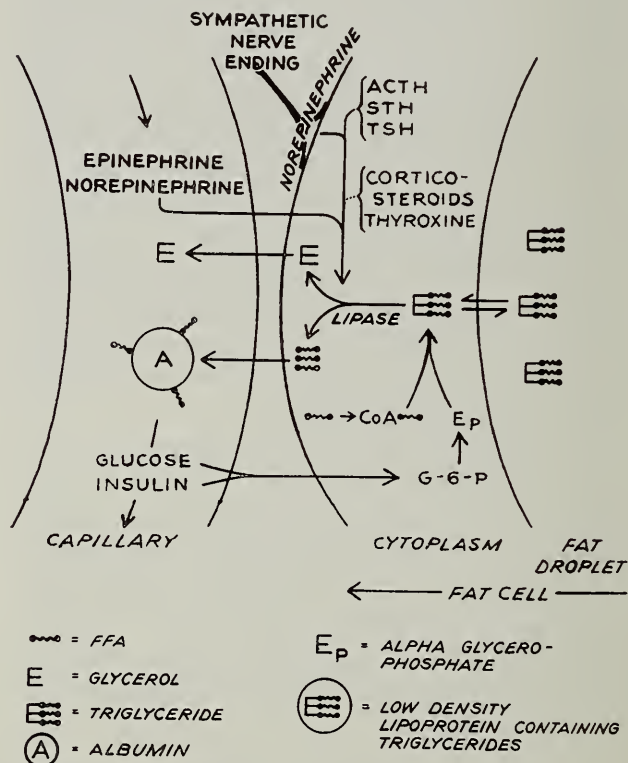


Figure 2. Reactions concerned with mobilization of FFA from adipose tissue cell to the blood. Norepinephrine liberated at sympathetic nerve endings and blood norepinephrine and epinephrine (from adrenal medulla) promote hydrolysis of triglycerides to FFA and glycerol (facilitated by other hormones). Some FFA enter blood plasma and combine with albumin; the remainder are activated by combination with co-enzyme A, a reaction requiring energy derived from adenosine triphosphate. The activated fatty acids are esterified with alpha glycerophosphate derived from glucose (but not from free glycerol) to form triglycerides. From Havel, R. J. Physiology for Physicians Vol. 6, 1963.

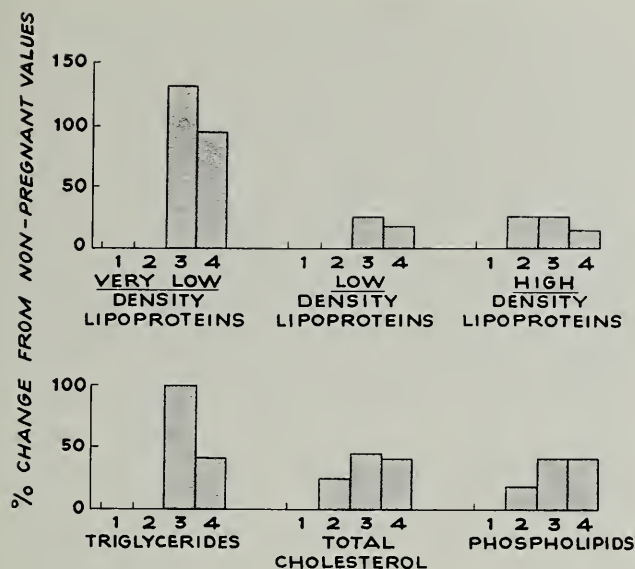


Figure 3. Changes in serum lipid and lipoprotein concentrations in normal pregnancy. Data calculated from Gofman et al.¹³ and de Alvarez.⁹ 1 = First trimester; 2 = Second trimester; 3 = Third trimester, 4 = 1 to 6 days postpartum. From Van Duyne, C. M. and Harvel, R. J. Clin. Obstet. & Gynec. 3: 326, 1960.

depot fat. Different mechanisms appear responsible for the direction and rates of these reactions. In simplified form, a working concept of these dynamics is shown in figure 2.

The triglycerides from the fat droplet are split into glycerol and FFA by a tissue lipase. It should be noted that the end products of lipolysis (fatty acids and glycerol) are not the immediate precursors for the synthetic reactions. The fatty acids must first be activated with co-enzyme A. This in turn combines with alpha-glycerol-phosphate, but not free glycerol, from the lipolytic reaction. Free glycerol cannot be utilized by adipose tissue. The availability of alpha-glycerol-phosphate in turn depends on the availability of glucose and insulin. When ample glucose is available and utilized, release of fatty acid is slowed. Conversely, in the absence of carbohydrate utilization, such as with fasting or "diabetes," fatty acid release is accelerated.

Many hormones influence the rate of fatty acid release. Individual hormones have direct and indirect effects. Different effects may be brought about when several hormones act together. While the mode of action of these hormones is complex, it is believed that they act upon an intracellular lipase with resulting increase in the break-

down of triglyceride stored in the fat cell. This causes an increase in the intracellular concentration of fatty acid from which it is released into the circulation. The release of fatty acid from adipose tissue is very sensitive to minute amounts of epinephrine or nor-epinephrine in the circulation, as well as to that liberated from stimulation of sympathetic nerve endings in adipose tissue. These adipokinetic effects can be reduced by adrenalectomy and restored by administration of corticosteroids. It has been shown that the activity of the sympathetic nervous system exerts a tonic effect on fatty acid release. In man, psychic stimuli, such as pain or anxiety, or orthostatic stress such as tilting from the horizontal to a vertical position will cause an elevation of plasma FFA.⁴ On the other hand, sedation or general anesthesia will depress FFA levels.

From the foregoing discussion it is obvious that many factors working alone or in combination, can alter the release of fatty acids from depots. Once fatty acids enter plasma they are loosely attached to albumin. They cross capillary walls and cell membranes with great ease. Within the cell the mitochondria play a key role in FFA metabolism.⁵ The FFA are either degraded with subsequent energy release or utilized for synthesis of other lipid based compounds. This breakdown may, in the liver at least, be only partial. Under such circumstances the unburned fuel is released as ketone bodies into the blood. In extra-hepatic tissues FFA degradation is usually complete, the end products being carbon dioxide and water. Both pathways require activation by co-enzyme A (figure 4). Little is known of the factors directing these pathways within cells. However, the FFA concentration in plasma determines their concentration in the tissue and this tissue concentration affects the rate of both degradation and synthesis. In a resting state, synthesis and degradation in the liver accounts for more than other tissues. During exercise degradation in muscle accounts for a major share.⁶ Adipose tissue, liver and intestinal mucosa are the only three known organs from which FFA and other lipids can be released. In the liver, lipoproteins are secreted into hepatic sinusoids. This mechanism provides a method which protects the liver from excessive lipid

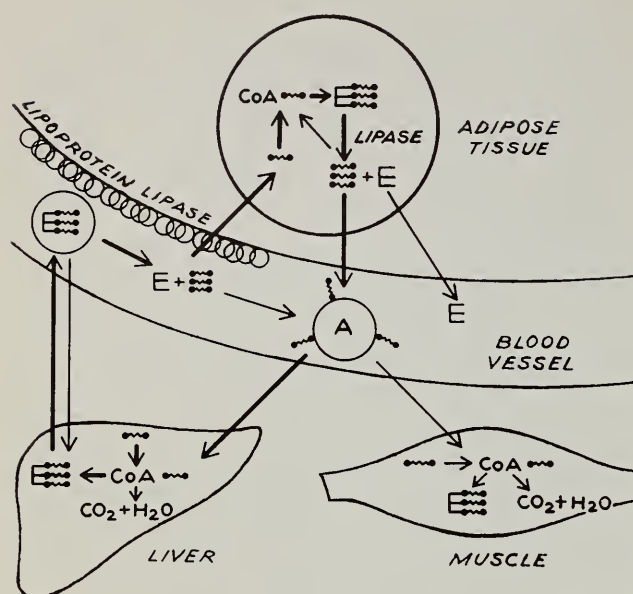


Figure 4. Major pathways of transport and utilization of FFA. After leaving the adipose tissue cell, they circulate in blood plasma bound to albumin and then enter cells in many tissues where they can be converted to esters or burned. The liver also has the capacity to deliver triglycerides derived from FFA back to the blood as low density lipoproteins. These triglycerides can be hydrolyzed by the lipoprotein lipase in many tissues (probably in the capillary endothelium) and their fatty acids then can enter the tissues or recirculate in the blood plasma bound to albumin. This reaction is particularly important in adipose tissue so that there is an exchange of fatty acids between adipose tissue and liver, as shown by the thicker arrows, as well as net transport out of adipose tissue. Symbols as in Figure 2. From Havel, R. J. *Physiology for Physicians* Vol. 6, 1963.

storage when it accepts or produces more fatty acids than it can utilize. Since other tissues cannot release fatty acids after entry, and since these cells do not become distended with fat, it follows that these cells must degrade the fatty acid molecule. Shipp⁷ has recently demonstrated that not only are fatty acids degraded in heart muscle cells to carbon dioxide and water, but if fatty acids and glucose are both made available the cells utilize the fatty acid to the near exclusion of glucose. It appears then, that once fatty acids gain access to the cell it is obligatory that they be degraded. Glucose, on the other hand, is utilized only when fatty acids are not available within the cell. (This, as noted before, does not apply to the nerve cells or erythrocytes which are totally glucose dependent.)

It becomes apparent that the utilization of fatty acids is obligatory once they have entered the cell. The rate at which they enter the cell is, of course, dependent on their concentration in the blood. Blood concentration, as we have seen, is dependent on the rate of release of FFA from adipose tissue. The amount of energy derived from fatty acid utilization then, is ultimately dependent on the rate at which FFA are released from fat depots. At any given moment the rate at which FFA is released from adipose tissue depends upon the nutritional, endocrine and psychic state of the individual. Alterations in any of these may stimulate or inhibit the release of FFA. However, the most important factor controlling their release is the rate at which the adipose tissue cells are utilizing glucose. This is regulated by the amount of glucose available and the presence of insulin. Thus following a meal the concentration of glucose in the blood is elevated. This promptly stimulates the secretion of insulin which, among other things, stimulates transport of glucose across the adipose tissue cell membrane and utilization within the cell. The availability of alpha-glycerol phosphate from glucose metabolism encourages the formation of fatty acid esters and depresses the rate of fatty acid release from the depot. In essence then, the effect of the chain of events following elevation of blood glucose is to encourage all tissues, and especially adipose tissue, to increase utilization of glucose. Increased glucose utilization in adipose tissue decreases FFA release so plasma and intra-cellular FFA concentration decrease. These decreases then permit cellular use of glucose. Thus glucose utilization is not enhanced because more glucose is available but because less fatty acids are available. Conversely, under conditions of fasting or insulin deficiency in which glucose supplies are either limited or not utilized, fatty acid release will be stimulated with a subsequent increase in FFA utilization and depression of that of glucose.

GLUCOSE METABOLISM

When glucose enters the blood there are several metabolic pathways open to it. In the absence of urgent physiological demands for oxidative energy or conversion to special

products, excess glucose may be deposited as glycogen in the liver and other tissues. Inasmuch as the amount of glycogen stored in the body is limited, once these stores are filled, the excess sugar is converted to fatty acid and stored as triglyceride in the fat depots. For example, in a well fed 70 kilogram man about 110 grams of glycogen can be stored in the liver and about 250 grams in muscle. Another 10 grams of glucose circulates in the blood. This represents an energy store of about 1500 calories.⁸

The sequence of events whereby glucose is degraded to carbon dioxide and water or enters other pathways, first involves uptake from blood via the extra-cellular compartment. This involves transport across the cell membrane, a step which is stimulated by insulin. Within the cell, glucose undergoes an obligatory phosphorylation as its initial step in further metabolism. The reaction to glucose-6-phosphate is catalyzed by an enzyme, hexokinase. Insulin specifically stimulates membrane transport but has little or no effect on the phosphorylation reaction.³ But failure to phosphorylate glucose limits the availability of glucose space within the cell and thus membrane transport is diminished indirectly. It is possible to ascertain which process is the limiting factor by measuring the intra-cellular concentration of glucose. This rises when phosphorylation is the limiting step and falls when membrane transport is diminished. Both situations however, would be reflected in an abnormal response to a glucose load, *i.e.* a glucose tolerance test.

Glucose-6-phosphate may be considered the keystone of carbohydrate metabolism. Once phosphorylated glucose may follow several pathways, each more or less designed for a specific purpose. From the standpoint of storage it can be formed from, or converted to glycogen. From the standpoint of energy it may be converted to lactic and pyruvic acids by the Embden-Meyerhof pathway. The route to this point is anaerobic and yields only ten per cent of the free energy liberated when the oxidation is carried completely to carbon dioxide and water in the Krebs tricarboxylic acid cycle.⁸

Another pathway is a more direct oxidative pathway, that is the so called shunt pathway. It is quite different from the Emb-

den-Meyerhof pathway both in function and chemistry. The reactions involved in the latter pathway include degradation of the 6-carbon glucose molecules to two 3-carbon molecules and their subsequent breakdown in the Krebs cycle. Glucose directed through the "shunt" pathway has the number one carbon of the original glucose-6-phosphate removed as carbon dioxide. The remaining 5-carbon or pentose sugar is utilized for synthetic processes. While the Embden-Meyerhof and Krebs tricarboxylic pathways provide materials primarily for energy formation, the "shunt" pathway provides for energy as well as materials for nucleic acid synthesis, nucleotides and more importantly, reduced triphosphopyridine nucleotide (TPN.H). This latter compound is essential in almost all biosynthetic processes.⁸

It is likely that many cells are capable of metabolizing glucose by both pathways, and the extent to which either is used depends on the metabolic requirements of that particular tissue. For example, the function of the erythrocyte depends entirely on the operation of the "shunt" pathway.

A third pathway of glucose metabolism is by the uronic acid pathway with subsequent formation of glucuronic acid. This pathway is important therefore, for formation of compounds required in detoxification and conjugation reactions with materials such as steroid hormones, drugs and bilirubin, with their subsequent excretion from the body.

INTER-RELATIONSHIP OF CONCEPTS

The maintenance of life and normal function requires constant work by a variety of tissues. In general, the function of a cell is dependent on the nature of its physio-chemical environment, the degree of organization and its supply of enzymes and substrates. Cells gain energy primarily from the oxidation of the 2-carbon fragment (active acetate) in the Krebs tricarboxylic acid cycle. It appears that most cells of the body are indifferent whether they obtain active acetate from degradation of glucose or of fatty acid molecules. The known exceptions are cells of the central nervous system and erythrocytes. These tissues are relatively inflexible in their requirements for glucose. In such cells, glucose utilization proceeds inde-

pendently of the presence of insulin. Tissues involved in synthetic and detoxification reactions are both insulin sensitive, and quite specific in their requirement for a certain amount of glucose. Since the body's available glucose stores are limited, it is imperative for the body to have some mechanism by which these limited supplies of glucose are preserved. The reactions of the "Glucose-Fatty Acid Cycle" are ideally suited for this purpose. It has been suggested that this cycle provides a primitive mechanism which, quite independent of hormonal control, tends to maintain a constant plasma glucose level over a wide range of availability or absence of food.³ Control of the cycle is modified at the adipose tissue level by insulin which enhances the uptake of glucose and inhibits the release of fatty acids. It is further monitored in peripheral tissues by the intra-cellular concentration of fatty acid, increases in which inhibit both membrane transport and oxidation of glucose.³

The sum of the foregoing information provides a basic framework for appreciation of the pathophysiologic processes involved in diseases characterized by alterations of carbohydrate metabolism.

The keystone of the abnormality lies in control of the net fatty acid release from adipose tissue. The complicated nature of this mechanism can be seen in figure 2. Any factor or combination of factors which encourages release of sufficient amounts of fatty acids to bring about an increase in their blood concentration of a significant degree and duration, could affect carbohydrate metabolism. This obviously would be reflected by an altered glucose tolerance test. This principle can be seen by analysis of the recent data of Hales (figure 5).

Plotted here are the changes in the plasma concentration of FFA, glucose, and insulin for four subject groups in response to ingesting 50 grams of glucose. Group one consists of persons in normal nutritional balance (controls). Group two are patients with a normal fasting blood sugar who were investigated because of obesity, an abnormal prednisone test or a previous abnormal glucose tolerance curve. Group three are known

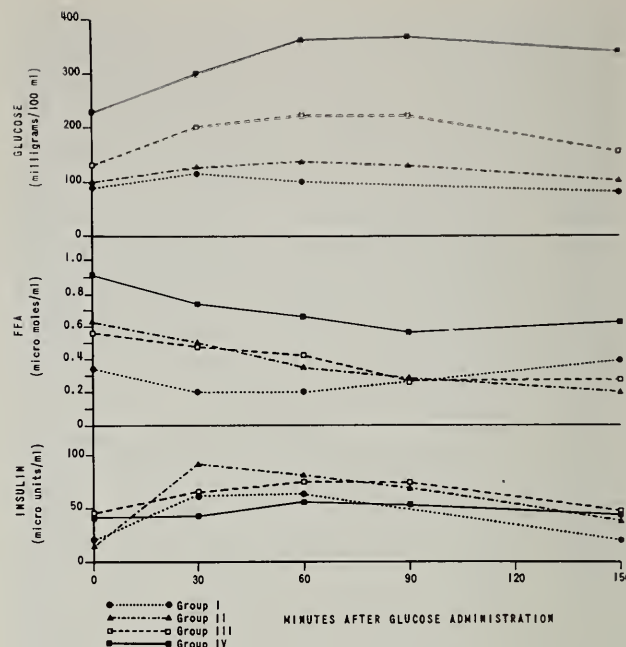


Figure 5. Effects of oral administration of 50 grams glucose on plasma concentrations of insulin, free fatty acids and sugar. (Data adapted from Hales, et al.¹⁰)

"diabetics" with a fasting blood sugar below 180 mg/100 ml plasma and group four are those with a fasting blood sugar above 180 mg/100 ml.

When compared with normal people, Group two patients had elevated fasting plasma concentrations of FFA, but normal glucose and insulin values. They showed an impaired tolerance to glucose in the presence of supra "normal" plasma insulin concentrations (figure 5). These patients must have been insensitive to their own circulating insulin during the test. Since comparable plasma concentrations of insulin and glucose lowered the plasma FFA levels in normals, it must be concluded that the rate of FFA release from adipose tissue in this group of patients was insensitive to insulin, or at least was less readily suppressed by it. It appears that the fundamental abnormality in these patients is in adipose tissue metabolism. Obviously it cannot be the result of pancreatic islet cell insufficiency.

The Group three and Group four patients had abnormally high plasma levels of insulin, glucose and FFA in the fasting state. They were not however, able to produce a much further rise in plasma insulin in response to the test. The raised plasma insulin level is presumably due to pancreatic beta cell stimulation by persistent high plasma concen-

trations of glucose. The minimum response to the new glucose stimulus apparently is due to the subsequent depletion of insulin. The fact that fasting plasma FFA concentrations were high in the presence of elevated levels of glucose and insulin (that would have lowered them to subnormal in normal subjects) can only mean that release of FFA from adipose tissue is less sensitive to glucose and insulin inhibition in these groups than in normal people. The fundamental abnormality again appears to reside in adipose tissue and not in the pancreas.

The phenomenon common to all groups however, is that the fall in plasma fatty acid levels precedes that of glucose. This finding is in accord with the concept that the major effect of insulin is on inhibition of FFA release from adipose tissue.⁹ It is not until plasma FFA levels are reduced and the intracellular concentration of FFA in peripheral tissues also is reduced, that the insulin can act in stimulating membrane transport of glucose to take glucose out of the blood.

The information now available permits formulation of a sequence of pathophysiological events which eventually result in the development of "diabetes."

The primary event may be an abnormality in adipose tissue metabolism which leads to an increased release of fatty acids. This could result from either a decrease in glyceride formation or an increase in glyceride breakdown. This should lead to an increased concentration of FFA in the blood. The associated increased intra-cellular concentration of FFA in cells would restrict both membrane transport and oxidation of

glucose. A state of chronic hyperglycemia would result. The increased blood glucose concentrations would stimulate secretion of insulin. After some unknown period, pancreatic beta cells would become exhausted and frank "diabetes" could result. As observed by Hales and Randle,¹⁰ "It is perhaps unfortunate that the symptoms of diabetes have, in the past, caused so much attention to be focused on carbohydrate metabolism. It seems likely that alterations of glucose tolerance are a late manifestation of metabolic changes which can lead, among other things, to cardiovascular, retinal and renal complications as well as fetal abnormalities." The possibility that biochemical tests of glyceride metabolism, such as plasma FFA and glycerol, might provide a more sensitive test for detection of diabetes in its early states deserves further study. □

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Announcing . . .

THE OKLAHOMA STATE MEDICAL ASSOCIATION'S "Conference on Mental Health And Retardation"

February 4th

•

Skirvin Tower Hotel

•

Oklahoma City

(News article and complete program appear on pages 30 and 31.)

ABSTRACTS

HEMOGLOBIN D IN AN OKLAHOMA FAMILY

The routine blood examination of a 76-year-old Oklahoma male who had consulted his physician because of angina showed that all the red cells did not hemolyze when the specimen was prepared for a hemoglobin determination and that there was a hypochromic microcytic anemia with the stained smear showing 50 per cent-70 per cent target cells and numerous spherocytes. Electrophoresis of the hemoglobin showed migration as a single blotch to the S (sickle) position and it was found to be completely soluble in 2.24 molar phosphate buffer. A Daland and Castle preparation showed no erythrocyte sickling so the diagnosis of homozygous hemoglobin D disease was presumed.

In an effort to firmly establish the homozygous character of the disease, siblings of the patient were also studied. An 87-year-old brother was found to have hemoglobin which moved into both the A (adult) and S positions. It was completely soluble in 2.24 molar phosphate and the sickling preparation was negative. Hemoglobin D trait was diagnosed.

A 72-year-old brother was found to have anemia with numerous target cells in the smear. Electrophoresis showed single spot migration to the S position, but unlike S hemoglobin that of the patient was completely soluble in the phosphate buffer and the sickle preparation was again negative. A diagnosis of homozygous hemoglobin D disease was made.

Paper electrophoresis of the hemoglobin of a 66-year-old sister showed only hemoglobin A.

Blood samples obtained from 27 descendants of the original patient's siblings were electrophoresed and hemoglobin D trait was found in one child and one grandchild of each of the brothers having hemoglobin D trait (A and D hemoglobin) and hemoglobin D disease (DD hemoglobin). So far as is known, the family are Caucasian, although the paternal grandfather of the patient is claimed to have been a fullblood Indian.

REVIEWER'S NOTE: Diseases due to abnormal hemoglobins are fortunately uncommon, for being a matter of genetics, there is little that can be done for the patient. Sickle cell disease is perhaps the most familiar of these and the severity of its thrombotic and hemolytic manifestations are notorious. Approximately one in 600 American Negroes suffer from this disease and it is apparently limited almost entirely to persons having some degree of Negro ancestry. By contrast, hemoglobin D has been found in several ethnic groups and is relatively innocuous. There is some evidence to suggest that the American Indian may constitute a reservoir of D hemoglobin, and physicians caring for Indians should consider this possibility if they encounter a hypochromic microcytic anemia which is resistant to iron therapy.

Hemoglobin D in an Oklahoma Family. Clarke Stout, Charles K. Holland, and R. Montgomery Bird. *Archives of Internal Medicine*, 114: 296-300, August, 1964.

CARCINOMA OF THE PROSTATE

In 1959 a group of fourteen urologists from several Veterans Administration Hospitals began a cooperative program to study the merits of the various current treatments for carcinoma of the prostate. This preliminary report deals with the progress so far in 617 patients having Stage III carcinoma (extending into the vesicles or beyond the capsule but without metastases) and Stage IV carcinoma (metastases proved by elevated acid phosphatase levels, radiographic changes or lymph node biopsy). The treatments were orchiectomy, orchiectomy with estrogen administration, estrogen alone, and treatment with a placebo. The effectiveness of these treatments was gauged by changes in the primary lesion, soft part metastases, dilation of the upper urinary tract with ureteral obstruction, osseous metastases, serum acid phosphatase, pain, neurologic phenomena, anemia, performance status and an over-all evaluation. It was found that estrogen alone, or orchiectomy alone or a combination of the two was significantly better than placebos. However, there was no apparent advantage of the combined treatments over either used alone.

REVIEWER'S NOTE: This study was well designed and carefully controlled. Whatever the final results, they will be as objective as possible. If the preliminary results of this investigation are borne out, a change in the treatment of prostatic carcinoma may occur.

Carcinoma of the Prostate: A Continuing cooperative Study. George T. Mellinger, William L. Parry, et al, *Journal of Urology* 91: 590-594, May, 1964.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Relations of Gut Mobility to Blood Flow in the Dog Ileum. J. B. Scott and J. M. Dabney. *Circulation Research* 15: (Supplement) 234, 1964.

Spore Germination in Forty-Two Species of Puffballs. G. S. Bulmer. *Mycologia* 56: 630, 1964.

Colorado Tick Fever Virus in Cell Culture. 1. Cell-Type Susceptibility and Interaction with L Cells. Dennis W. Trent and Vernon Scott. *Journal of Bacteriology* 88: 702, 1964.

Impulse Velocity and Conduction Pathways in Rat Myometrium. C. E. Melton, Jr., and J. T. Saldiver, Jr. *American Journal of Physiology* 206: 279, 1964.

Progress Report: Otosclerosis. J. V. D. Hough. *Archives of Otolaryngology* 79: 421, 1964.

Drugs and Flying Personnel. J. Robert Dille, M.D., *American Academy of General Practice*, XXX, 5, Nov., 1964.

Reprints of the above publications are usually available on request from the senior author, c/o Mrs. Joan Campbell, Veterans Administration Hospital, 921 N.E. 13th Street, Oklahoma City, Oklahoma.

Some New Aspects of Aortic Stenosis

JOHN D. KYRIACOPOULOS, M.D.*

The broad spectrum of aortic stenosis has been extensively explored during the past two decades. From catheterization and angiographic studies three distinct varieties of left ventricular outflow obstruction have been described, the supra-ventricular, valvular and subvalvular. They have been confirmed either by surgery or necropsy.

Of the subvalvular variety the discrete form (fibrous band) has long been known. More recently a new form of subvalvular aortic stenosis has been recognized in which there is narrowing of the hypertrophied left ventricular outflow tract during systole. This form has been classified as hypertrophic subaortic stenosis. Pathologically there is diffuse hypertrophy of the left ventricular myocardium with inordinate thickening of the ventricular septum.

Physiologically, impedance to the blood flow is not uniform throughout systole, in contrast to the other forms of aortic stenosis in which obstruction is present during the entire length of the cardiac cycle. Early in the ejection phase the pressure in the aorta rises with a rapidity which indicates that

the blood flow is unobstructed during this part of the ventricular systole. An abrupt reduction in the rate of pressure rise later in systole supports the view that obstruction develops as ventricular contraction continues.

Obstruction to the outflow tract of the left ventricle varies with the strength of the myocardial contractility. In the supra-ventricular, valvular and discrete subvalvular aortic stenosis, owing to the fixed cross sectional area and presumably to the fixed stroke volume, the aortic pressure remains unchanged during the first normally conducted beat after an extrasystole. In sub-aortic stenosis, under the same circumstances, increased myocardial contractility results from the prolonged diastolic filling of the left ventricle. The increased myocardial contractility promotes further narrowing of the ventricular outflow tract. The end result is a lower aortic pulse pressure with reduced stroke volume. Similarly, when the contractility of the left ventricular myocardium is augmented, following administration of cardiotropic drugs (digitalis - nor - epinephrine, etc.) the left ventricular pressure rises steeply and that of the aorta declines sharply.

Patients with hypertrophic subaortic stenosis display physical findings peculiar

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Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

to the physiological behavior of the disease. The heart is more frequently enlarged than in the valvular type and the point of maximal impulse is forceful and diffuse. The peripheral pulse is brisk with a rapid upstroke in the former, unlike the parvus and tardus pulse of the latter. The ascending limb of the indirect carotid tracing is steep and followed by a rounded hump with a delayed incisura, in contrast to the valvular type in which the anacrotic notch of the carotid tracing is followed by a slow ascending limb or a plateau to a delayed peak.

When a thrill is present, it is seldom palpated over the second left costal space but it is usually detected along the left sternal border and near the apex. The ejection murmur is usually heard in the same areas as the thrill and very seldom radiates to the neck vessels. An early diastolic murmur is present at times.

An ejection sound is heard in about two-thirds of patients with valvular aortic stenosis. In patients with hypertrophic subaortic stenosis this sound is usually absent. Finally, an atrial gallop is more frequently heard in subaortic stenosis than in the other forms of aortic stenosis. This auscultatory finding implies that there is a decreased compliance of the left ventricular myocardium with increased resistance to the filling of the left ventricle. It may be detected early in the course of the disease.

Radiographically the heart is usually enlarged. Although post-stenotic dilatation of the ascending aorta is as frequently present in the subaortic as it is in the valvular type of aortic stenosis, this dilatation is usually minimal when compared to the latter form in which two-thirds of the cases show moderate to severe dilatation. Calcification of the aortic valve is absent.

Electrocardiographic changes of left ventricular hypertrophy are found regularly in hypertrophic subaortic stenosis.

It is evident that hypertrophic subaortic stenosis can be diagnosed clinically with a high degree of accuracy. Catheterization and angiocardiographic studies are necessary to confirm the diagnosis and to explore the possibility of coexisting stenosis of other forms.

Cardiac catheterization usually reveals modest pressure gradients when a retrogradely inserted catheter is withdrawn from the main left ventricular cavity into the ventricular outflow tract. Variation in the pressure gradient is observed during different cardiac cycles depending on the force of myocardial contractility. A sharp rise in the pressure gradient is seen as isoproterenol is injected, a feature characteristic of hypertrophic subaortic stenosis.

Opacification of the left ventricle with radio-opaque contrast material reveals a normal sized cavity with a greatly thickened ventricular wall. The outflow tract is narrowed during systole and is relatively normal in size during diastole.

A few cases of hypertrophic subaortic stenosis have been operated and part of the thickened myocardium has been excised from the apex up to the aortic annulus.

The etiology of hypertrophic subaortic stenosis is not known. A familial pattern of the disease is found frequently. All affected members of a family may not display the same findings which are typical of the disease but may reveal features of cardiomyopathies without obstruction. It is thus reasonable to conclude that hypertrophic subaortic stenosis is another form of cardiomyopathy in which involvement of the left ventricular myocardium is not symmetrical.

READERSHIP SURVEY

Have you completed and mailed the *OSMA JOURNAL* readership survey which appears on page 3 of this issue? Your attention to the brief questionnaire will contribute to the improvement of the *Journal* content, and will enhance advertising prospects. Let us know what *you* think about the *Journal*—TODAY!

Pharmacist and Physician Relationships

LOYD E. HARRIS, Ph.D.

Doctor Harris, Dean of the College of Pharmacy at the University of Oklahoma, is Chairman of the Interprofessional Relations Committee, Oklahoma Pharmaceutical Association. To promote better understanding between the professions of pharmacy and medicine, additional articles will be exchanged for publication in The Journals of both state associations.

THE PHARMACIST AND the physician are a special team working for the benefit of the patient. It is an accepted fact that the patient is best served when there is a complete adherence to the respective codes of ethics by the practitioners of the two professions. The purpose of this article is to point out to physicians some specific things that will be of assistance to patients and to pharmacists.

Refills. Always make your wishes known by checking them on your prescription. Each physician, according to his professional judgment should decide whether a prescription should be refilled if desired by his patient, or if the patient should return for further examination before taking more of the specific medication. It would be most helpful to the patient and to the pharmacist for the physician to explain this to his patient. Otherwise the patient may go to his pharmacist to have it refilled and become, in some instances, rather angry because he cannot get this service. It may even go so far as to have the patient accuse the pharmacist of being in collusion with the physician.

If the prescription is to be refilled, the number of times and limits as to time interval (if required) should be made specific on the prescription. This will avoid the necessity of the pharmacist having to call the physician before the prescription may be refilled.

There is, as you know, a strong effort being made by the American Pharmaceutical Association to create a new class of drugs that will be dispensed only on the prescription of a practitioner but may be refilled by the pharmacist, based upon his professional judgment, for a limited period of time. This would have some definite advantages for all parties, but it is not now the law of the land.

This brings to our attention the problem of the prescription that is marked to be refilled P.R.N. It is possible that some consideration should be given to a time limit for the refilling of such prescriptions. Perhaps the prescriber and the pharmacist should agree that a year is long enough time for the patient to take a drug without a check-up by a physician. It is recommended that local organizations, such as county groups, have joint meetings to discuss the problems involved and to arrive at a decision as to what is best for the patient.

A trend has developed among some physicians to request that prescriptions be "labeled as such" which means that the name of the drug is to be placed on the label. This is, in some instances, an advantage to the physician since the patient may either show him the container or be given the name by the patient. It creates problems for the pharmacist in that they are being asked for these drugs by *name* rather than by *description*, often by individuals other than the original patient. It was easy not to be able to identify

(Continued on Page 40)

OSMA Sponsors Statewide Mental Health Conference

A statewide Conference on Mental Health and Retardation, sponsored by the Oklahoma State Medical Association's Council on Public Health and its Mental Health Committee, was announced recently by Hayden H. Donahue, M.D., Council Chairman. The important day-long meeting will be held February 4th in the Persian Room of the Skirvin Hotel.

OSMA's second statewide mental health meeting in as many years emphasizes the association's surging interest in the spiralling problems of mental health, and demonstrates the determination of the medical profession to play a prominent role in the future development of improved programs, facilities and personnel for the care of the state's mentally ill.

Last year, the association conducted a professional conference on mental health, for the purpose of defining organized medicine's policy toward major mental health problems, and this meeting resulted in the development of a policy paper entitled "OSMA's New Action For Mental Health." The association's House of Delegates approved the policy statement at its 1965 annual meeting.

"New Action For Mental Health" attracted national recognition from the American Psychiatric Association, the AMA's Council on Mental

Health, and from various governmental agencies and officials. It is thought to be one of the most thorough statements emanating from a medical society, and is being recommended as a model program for other medical society groups.

The formulation of the OSMA position in 1964 on mental health matters has now set the stage for a public forum in 1965, and thus the Council on Public Health has undertaken sponsorship of the 1965 OSMA Conference on Mental Health and Retardation.

400 Expected

More than four hundred persons are expected to attend the February 4th meeting, representing the Oklahoma Legislature, all private and governmental agencies interested in mental health problems, the health professions, and the general public.

Promotion of the conference will begin this month with an announcement letter from the medical association to be followed by a mailing of the official program and pre-registration form.

Purpose of Conference

According to Doctor Donahue, the purpose of the Conference on Mental Health and Retardation is "to ap-

praise the growing medical, economic, social and jurisdictional problems of mental health in Oklahoma, with a view toward the development of a realistic program and coordinated effort."

Doctor Donahue added: "The accelerated interest and activity in the mental health field—arising from the public, private and governmental organizations, and the professions—has brought about general confusion as to areas of responsibility, not to mention the multiplicity of projects being advanced without proper respect for priorities, adequate financial wherewithal, jurisdictional questions, professional manpower needs, and other problems which must be screened on a practical, realistic basis."

The psychiatrist expressed hope that the conference would "transform mental health *heat* into mental health *light* and help all interested parties see the complex picture with greater clarity."

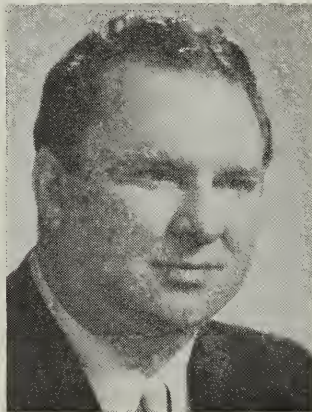
Dignitaries Scheduled

OSMA's program committee for the conference has arranged an illustrious cast of speakers, including top officials from the state and federal governments, as well as professional mental health leaders of national stature.

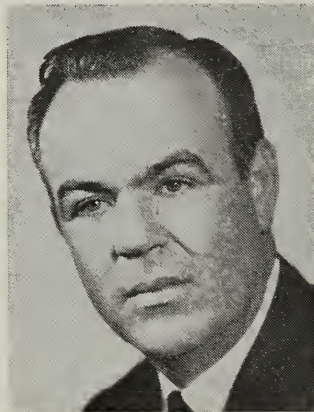
Governor Henry Bellmon, Senator Clem McSpadden, President Pro Tempore of the State Senate, and Representative J. D. McCarty, Speaker of the Oklahoma House of Representatives, will represent the important executive and legislative branches of state government.



BELLMON



McCARTY



McSPADDEN



FORD

PROGRAM

OSMA Conference on Mental Health and Retardation

February 4th, 1965 • Skirvin Hotel • Oklahoma City

- 8:30 a.m.—*Registration and Coffee*
- 9:00 a.m.—*Welcome . . .* Harlan Thomas, M.D., Tulsa, President, OSMA
- 9:05 a.m.—*The Challenge Ahead . . .* Hon. Henry Bellmon, Governor, State of Oklahoma, Oklahoma City
- 9:15 a.m.—*National Outlook For Mental Health Programming . . .* Hamilton F. Ford, M.D., Galveston, Texas, Chairman, AMA Council on Mental Health
- 9:45 a.m.—*A Look At Oklahoma—Past, Present, Future . . .* Albert J. Glass, M.D., Oklahoma City, Director, State Department of Mental Health
- 10:15 a.m.—*Coffee Break*
- 10:30 a.m.—*Implementation of the Program for Mentally Retarded In Oklahoma . . .* Stafford L. Warren, M.D., Washington, D.C., Special Assistant to the President of the United States
- 11:00 a.m.—*Professional Manpower Development . . .* Chester A. Pierce, M.D., Oklahoma City, Chief, Department of Psychiatry, Veterans Administration Hospital
- 11:30 a.m.—*Report of the Oklahoma Mental Health Survey . . .* John D. Griffith, M.D., Oklahoma City, Director, Oklahoma Mental Health Planning Committee
- 12:00 p.m.—*Buffet Luncheon*
- 1:20 p.m. *Dynamic Developments In Mental Health Care . . .* Milton Greenblatt, M.D., Boston, Massachusetts, Superintendent, Boston Psychopathic Hospital
- 2:00 p.m.—*New Action For Mental Health In Oklahoma . . .* George H. Guthrey, M.D., Oklahoma City, Chairman, OSMA Mental Health Committee
- 2:30 p.m.—*Meeting Mental Health Needs in the Community . . .* Bertram S. Brown, M.D., Bethesda, Maryland, Director Community Mental Health Services Division, National Institute of Mental Health
- 3:00 p.m.—*Panel: Present and Future Roles of the Mental Health Team . . . Moderator:* Bruce G. Carter, Ed.D., Miami, Oklahoma, President, Oklahoma Association for Mental Health
Panelists: Doctor Glass; Kirk T. Mosley, M.D., Oklahoma City, State Commissioner of Health; Lloyd E. Rader, Oklahoma City, Director, State Department of Public Welfare; Frank L. Adelman, M.D., Enid, President, District Branch, American Psychiatric Association; Louis J. West, M.D., Oklahoma City, Chief of Psychiatry, University of Oklahoma Medical Center; Hon. Clem McSpadden, Claremore, President Pro Tempore, State Senate; Hon. J. D. McCarty, Oklahoma City, Speaker, House of Representatives
- 4:30 p.m.—*Conference Summary . . .* Bruce G. Carter, Ed.D.
- 4:45 p.m.—*Adjournment*

REGISTRATION INFORMATION

Pre-registration is requested. Send your check for \$2.50 (luncheon ticket) to the OSMA, Box 18696, Oklahoma City, to indicate your plans to attend. Make check payable to the OSMA.

Stafford L. Warren, M.D., Special Assistant to the President of the United States on Mental Retardation, will discuss the implementation of Oklahoma's program for the mentally retarded.

Milton Greenblatt, M.D., Superintendent of the Boston Psychopathic Hospital, Boston, Massachusetts, is scheduled to present a "scientific paper" on the dynamic developments in the professional aspects of mental health care.

Hamilton F. Ford, M.D., Chairman of the American Medical Association's Council on Mental Health, Galveston, Texas, will preview the national outlook for mental health programming.

Bertram S. Brown, M.D., Director of the Community Mental Health Services Division of the National Institute of Mental Health, Bethesda, Maryland, will address himself to the topic of mental health planning at the community level.

State Study, OSMA Policy To Be Aired

Findings of the two-year statewide mental health survey will be presented by project director John D. Griffith, M.D., and George H. Guthrey, M.D., Chairman of the OSMA Mental Health Committee, will review the association's position on major mental health problems as well as to outline projects for priority consideration.

Oklahoma's Director of Mental Health, Albert J. Glass, M.D., is expected to trace the development of the state's mental health facilities in relationship to the growth of the problem, and he will also present his department's immediate and projected plans for meeting mental health needs.

Professional manpower needs and development will be the topic for Chester A. Pierce, M.D., Chief of the Oklahoma City Veterans Administration Hospital's Department of Psychiatry and member of the American Psychiatric Association's Committee on Manpower.

Concluding the conference program will be a panel discussion featuring

Doctor Glass, Kirk T. Mosley, M.D., Commissioner of Health, Lloyd E. Rader, Director of the State Department of Public Welfare, Frank L. Adelman, M.D., President of the Oklahoma District Branch of the American Psychiatric Association, Louis J. West, M.D., Chief of Psychiatry, University of Oklahoma Medical Center, Senator McSpadden and Representative McCarty. Moderator will be Bruce G. Carter, Ed.D., President of the Oklahoma Association for Mental Health.

Panelists will discuss their respective present and future roles in meeting the various mental health needs of Oklahomans, with particular emphasis on the importance and methodology of coordination to assure well-defined jurisdictional lines and to generally promote efficiency.

OSMA President Harlan Thomas, M.D., will welcome delegates to the conference, and Doctor Carter, President, Northeastern A and M College, Miami, will wrap up the meeting by summarizing the major points made by all speakers.

Doctors and Wives Invited

In announcing promotional plans for the Conference on Mental Health and Retardation, Doctor Donahue said all Oklahoma physicians and their wives are especially invited to attend and participate.

Presidents, secretaries, mental health and legislative committee chairmen of all county medical societies will be asked to pre-register for the meeting, but professional representation is not limited to these individuals — it is hoped that many other interested physicians will make it a point to be present.

Doctors who have participated so well in committee work associated with the statewide mental health survey will also receive special invitations.

In addition, the state and county officers and mental health committee chairmen of the Woman's Auxiliary to the Oklahoma State Medical Association will be urged to attend the conference ☐

Loans, Scholarships Now Incorporated

Joe L. Duer, M.D., Chairman of the association's Financial Aid to Education Committee, has announced the formation of a separate non-profit corporation to administer the loan and scholarship funds provided by the OSMA for medical students at the University of Oklahoma School of Medicine.

Known as the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated, the new corporation was formed at the request of the association's House of Delegates for the purpose of obtaining a tax-exemption certificate and thereby qualifying for tax-deductible gifts.

The tax-exempt status has not been obtained as yet, but Doctor Duer reports that the OSMA legal counsel has the matter in process.

At the present time, the program is being supported exclusively by the earmarking of \$5.00 from each OSMA member's annual dues. This procedure raises about \$8,600 a year.

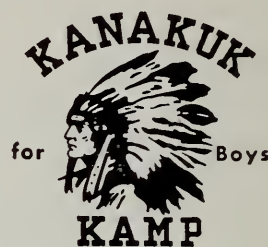
Since the inception of the financial aid program in 1962, \$17,400 has been processed in loans to forty-four O.U. students, and fifteen scholarships have been awarded in the aggregate amount of \$7,500.

Loans are based on need and the five scholarships awarded each year are granted according to the academic standing of members of the freshman class. The project also has a small fund for the purpose of offering grants-in-aid to assist students in meeting short-term financial emergencies.

Loans are repayable within three years after the completion of the student's medical training, and simple interest at the rate of two per cent does not accrue until the end of the training period. Grants-in-aid are repayable on a voluntary basis.

Directors of the new corporation are Joe L. Duer, M.D., Woodward, Rex E. Kenyon, M.D., Oklahoma City, Harlan Thomas, M. D., Tulsa, Clinton Gallaher, M.D., Shawnee, and J. Hoyle Carlock, M.D., Ardmore. ☐

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30th Legislature Convenes: OSMA Committee Acts On Proposals

The 30th Session of the Oklahoma State Legislature officially opened its doors for business January 5th in the State Capitol Senate and House chambers.

At the sound of the gavels convening the session, Oklahomans saw their first reapportioned legislature since statehood. As was predicted by most political observers, Senator Clem McSpadden of Chelsea and Representative J. D. McCarty, Oklahoma City, presided over the Senate and House, respectively, in their official roles as President Pro Tempore of the Senate and Speaker of the House of Representatives.

For the most part, the new legislature is faced with the age old burden of finding more monies to finance the state's next biennial education, highway, and mental health programs, not to mention many other agencies of state government screaming for an increased appropriation.

During the 29th Session of 1963, 357 bills were introduced in the Senate and 574 in the House. The Oklahoma State Medical Association, functioning through its State Legislative Committee, reviewed and kept a watchful eye on more than 40 bills of particular interest to medicine.

OSMA Legislative Committee Working

On December 10th the State Legislative Committee of the Oklahoma State Medical Association met for six hours, reviewing and acting on either prefiled bills or anticipated legislative proposals. At 11:20 p.m., the committee adjourned, but not before it had approved 17 proposals, lateraled two more to the Board of Trustees, deferred action on five, and suggested amendments on two others.

Chairman of the State Legislative Committee is Thomas C. Points, M.D., of Oklahoma City. Other mem-

bers are: John A. Blaschke, M.D., Oklahoma City; Kieffer D. Davis, M.D., Bartlesville; Hayden H. Donahue, M.D., Norman; Raymond F. Hain, M.D., Oklahoma City; and David C. Ramsay, M.D., Ada.

Foremost among the proposals approved by the committee with unanimous support were Legislative Council Proposal Number 107 and a "Child Abuse Law." Legislative Council Proposal 107, submitted by the late Senator Lou's Ritzhaupt, Guthrie physician, would provide an approximate \$2,066,200 capital outlay for construction of a new State Department of Health central office building and, also for repair and expansion of other department facilities.

The committee strongly favored passage of legislation similar to a model law relating to "physical abuse of children." The model law contains a provision which confers immunity upon physicians, school teachers, social workers and other professional personnel and institutions who report cases of physical abuse of children.

Other proposals approved by the committee are:

- *Routine Testing of Newborn to Determine Metabolic Disorders.* The government Legislative Council had previously approved a proposal recommending testing of newborn in order to determine a metabolic disorder. The association committee recommendation is: "The OSMA and its physician members support the principle of public and professional education regarding the wisdom of necessary testing for metabolic disorders in infants, but because the medical profession cannot solely control the administration of such testing as a matter of public policy, and since responsible parents are essential to the success of the proposed program—it is recommended that parents be held at least equally responsible for the welfare of their children."

- Increase the biennium appropriation of the Board of Unexplained Deaths from \$84,000 to \$196,245.
- An amendment to provide a statutory basis for a physician to draw

blood from persons dying from unexplained causes for laboratory examination.

- Amendment giving consent for a licensed physician to conduct a postmortem examination of the body of a deceased person by any one of a number of persons who shall assume custody of the body for burial purposes.
- An amendment to establish a staggered tenure for members of the Board of Medical Examiners.
- An act creating a registration board for physical therapists.
- An amendment to provide the issuance of temporary licenses or certificates to graduates of foreign medical schools for duration of resident training at specified state hospitals. (This proposal will be further acted on by the OSMA Board of Trustees.)
- Senate Bill No. 12 — Amendment permitting the admission of chronic alcoholics to state mental hospitals.
- House Bill No. 502 — Amendment authorizing the establishment of precare and aftercare services within the Department of Mental Health.

The committee referred a proposal which would authorize county health department units to charge fees for visiting nurse services to the Board of Trustees for its action. □

Williams Joins Medical Center Staff

Harold L. Williams, Ph.D., former deputy director and chief of the psychology division of the Walter Reed Army Institute of Research, Washington, D.C., has joined the faculty of the University of Oklahoma School of Medicine as a research professor of medical psychology.

The recently retired army lieutenant colonel was in charge of the sleep research program at Walter Reed and is a world authority on the effects of sleep deprivation and fatigue upon behavior and performance. He received his Ph.D. degree at the University of Minnesota. □

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Ada Postgraduate Course Big Success: Seven More Scheduled

The 1965 Regional Postgraduate Education Courses, sponsored by the Oklahoma State Medical Association, were officially launched with the January 12th medical educational review in Ada.

The Ada postgraduate course, tagged as a big success, was on the subject of "The Blood," and physicians scattered throughout the South-eastern section of the state attended.

This year marks the fifth consecutive year for OSMA sponsorship of the series of eight Regional Postgraduate Education Courses—held throughout the state during the months of January through April.

At the rate of two per month, the courses are held at decentralized meeting sites across the state and, in an effort to conserve the physicians' time, they are scheduled in the late afternoon and evening. The meetings begin at 4:30 p.m., with two hours of lecture, followed by dinner and another two-hour period of lecture and discussion. Faculty members from the University of Okla-

homa Medical Center make the scientific presentation.

Each program is approved for four hours credit (Category I) by the American Academy of General Practice. A registration fee of \$7.50 covers the complete scientific program as well as the dinner.

The OSMA's Council on Professional Education and the University of Oklahoma Medical Center's Department of Postgraduate Education are in charge of overall planning for the regional courses.

According to the Council, any member of the Oklahoma State Medical Association may attend any of the offered courses. Pre-registration may be made at the Oklahoma State Medical Association Executive Office for any of the remaining courses by mailing a check for \$7.50 and indicating the location where the preferred course is being held.

In addition to the opening program held in Ada, seven courses remain to be held. The second Regional Postgraduate Education Course will

be on the subject of "The Thyroid." It will be held January 26th in the Officers Club at Clinton-Sherman Air Force Base.

The remaining six programs will be held on the following dates, with corresponding subjects offered and at the location indicated:

February 16th — "The Ovaries," Hotel Lawtonian, Lawton.

February 23rd — "The Ovaries," Country Club, Ponca City.

March 23rd — "Small Intestine," Lake Murray Lodge, Ardmore.

March 30th — "The Blood," Western Sands Motel, Woodward.

April 20th — "The Thyroid," Country Club, Enid.

April 27th — "Small Intestine," Tradewinds, Muskogee.

Assisting the OSMA and medical center in planning the topics and organizing the speaking teams are: Jack D. Welsh, M.D. — "The Small Intestine"; James A. Merrill, M.D. — "The Ovaries"; Carl W. Smith, M.D. — "The Thyroid"; and Richard A. Marshall, M.D. — "The Blood." □

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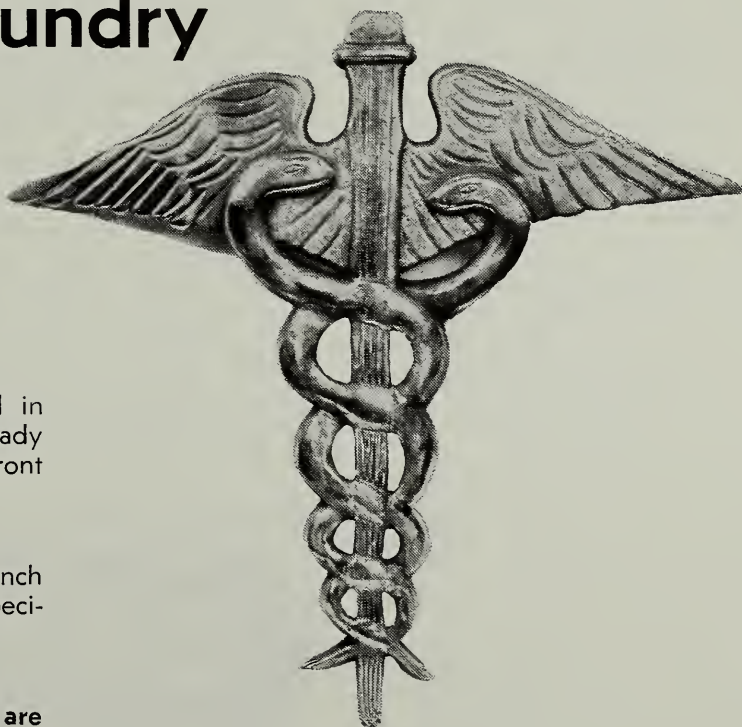
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Preview of 1965 OSMA Annual Meeting

A series of four seminars, each built around a different area of diagnosis and treatment, will highlight the scientific program of the 59th Annual Meeting of the Oklahoma State Medical Association at Tulsa's new Assembly Center, May 14th-16th, 1965.

On Friday morning, May 14th, physicians will hear a discussion of "What's New in X-Ray Diagnosis and Therapy." On Friday afternoon the topic will be "New Directions in Immuno-Chemistry." On Saturday morning, May 15th, convention visitors will hear a seminar on "Advances in Modern Surgery." The subject of the final scientific seminar on Saturday afternoon will be "Recent Progress in the Treatment of Pulmonary Diseases."

Each seminar will feature nationally known medical personalities and members of the Oklahoma State Medical Association as guest speakers. The sessions are designed for a maximum application to office practice and will offer opportunities for audience participation.

Another innovation in the scientific program will be roundtable luncheon conferences on popular medical and surgical subjects to be held on Saturday, May 15th, at 12:30 p.m. Physicians will select a table in their field of interest, each of which will be presided over by a moderator. A visiting distinguished guest speaker will also be present at each table, and general discussion of pertinent scientific subjects will be conducted during and after lunch.

Other features of the popular annual meeting will be:

The Second Annual Peter E. Russo Memorial Conference on Medicine and Religion, to be held on Saturday afternoon, May 15th.

A Seminar on Legal Problems in Medicine, with emphasis upon malpractice prevention and defense, will be conducted Sunday morning, May 16th.

The President's Inaugural Dinner Dance on Saturday evening, May



OSMA honored P. L. Hays, M.D., of Vinita with the presentation of a Fifty-Year-Pin in recognition of more than one-half a century of devoted medical practice. Presentation was made at the December 10th meeting of the Craig, Delaware, Ottawa County Medical Society. Pictured with Doctor Hays, (center) above are: Harry Barnes, M.D., Vinita (left) and Wylie G. Chesnut, M.D., Miami (right).

15th, featuring entertainment and dancing following the inauguration of Doctor Rex E. Kenyon of Oklahoma City as OSMA President.

Specialty group meetings are being scheduled for Friday evening, May 14th, and all day Sunday, May 16th. The Woman's Auxiliary to the Oklahoma State Medical Association plans sessions for Friday and Saturday, May 14th-15th, at The Mayo.

All sessions, except the dinner dance, will be in Tulsa's beautiful new multi-million dollar Assembly Center, located two blocks from the headquarters hotel, The Mayo.

The OSMA House of Delegates will meet at the Center on Friday morning, May 14th, and again on Saturday morning, May 15th. All Association members are welcome and urged to attend.

The president of the American Medical Association, Doctor Donovan Ward, Dubuque, Iowa, will address the House of Delegates on Friday morning.

Reference Committees of the House will convene on Friday afternoon, affording all association members the opportunity to express their

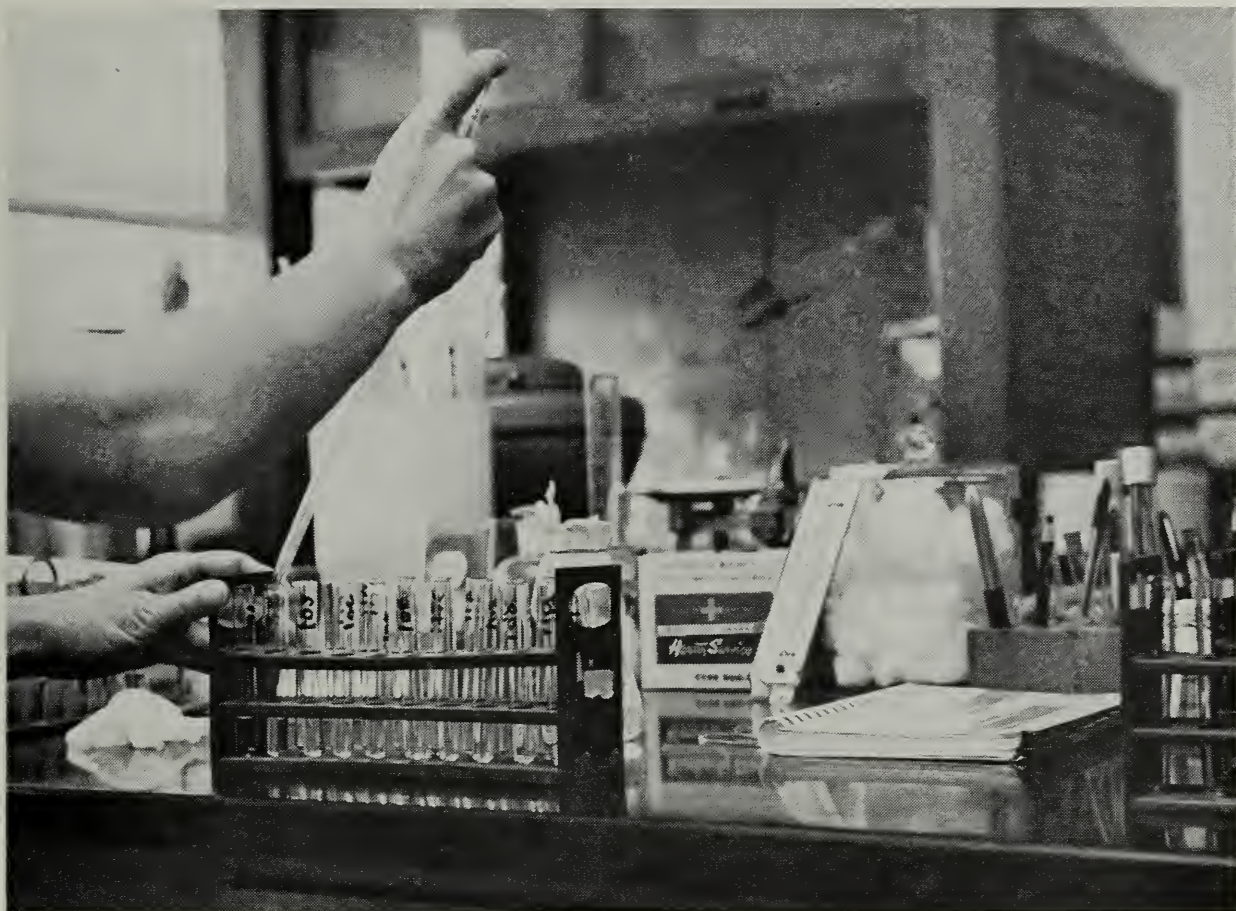
views on policy matters under consideration. Reference committees will report to the House on Saturday morning where final action will be taken.

Sales of exhibit space are proceeding, and the technical exhibit will be interspersed with the scientific exhibit for a maximum of physician viewing interest. Major firms whose products and services are of interest to doctors will have displays in a large area adjacent to the general meeting room.

Space for scientific exhibits by physicians and organizations is still available, and applications may be obtained by writing: Convention Headquarters, Oklahoma State Medical Association, 104 Utica Square Medical Center, Tulsa, Oklahoma. There is no charge for space.

The Annual Golf Tournament of the Oklahoma State Medical Association will be an event of Friday, May 14th, at Oaks Country Club.

Doctor Howard A. Bennett is General Chairman of the Annual Meeting, assisted by Doctors C. S. Lewis, Jr., Walter E. Brown, Dave B. Lhevine, Thomas W. Taylor, John W. Gaddis and Donald L. Brawner. □



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Good health is not an accidental favor that is bestowed upon a few individuals . . . it is a blessing, earned through years of research by a dedicated medical profession, to be shared by all people.

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OKLAHOMA RURAL ELECTRIC COOPERATIVES

OSMA Attends AMA Kerr-Mills Conference

Two representatives of the Oklahoma State Medical Association were in Chicago, January 9th and 10th, to attend the American Medical Association's National Conference on Kerr-Mills. Travelling for the OSMA were E. M. Gullatt, M.D., Ada, Chairman of the association's Council on Socio-Economic Activities, and Charles M. Bielstein, M.D., Oklahoma City, chairman of the Department of Public Welfare's Professional Advisory Committee.

The purpose of the conference was to bring together representatives from each state to explore in depth the structure of individual state plans to provide health care through the Medical Assistance for the Aged provisions of Kerr-Mills legislation.

In combatting proposals to provide elder care through expansion of the Social Security tax program, the American Medical Association has presented the positive alternative of providing Kerr-Mills' benefits for the needy aged and permitting over-65 persons who are financially able to protect themselves against the costs of illness through the purchase of voluntary prepayment or health insurance plans.

The January conference of state medical association representatives was called to appraise the present status of developments in the local implementation of Kerr-Mills benefits with particular emphasis on the recommended solutions to Kerr-Mills problems which have occurred, as well as to provide opportunity for a general study of improvements which could and should be made to strengthen the Kerr-Mills plan.

Kerr-Mills passed Congress in 1960. It provided for increased federal matching funds for states with health care programs for elderly public assistance recipients (Old Age Assistance) and created a new federal-state matching fund program for over-65 persons who are too well off to qualify for public assistance but

who need financial help during periods of illness.

Thus, half of the Kerr-Mills Act was devoted to the new Medical Assistance for the Aged program (MAA); a program designed to help the near-needy. The January AMA Conference was directed toward the improvement of this aspect of Kerr-Mills (MAA).

At the present time, health care programs for Old Age Assistance recipients (OAA) are operating in all fifty states. Medical Assistance for the Aged programs have been implemented in thirty seven states, the District of Columbia, and four territories.

However, MAA programs vary in their benefits and eligibility requirements from state-to-state, and because some state plans are quite limited in scope, the Kerr-Mills approach to health care for the aged has been frequently criticized by ad-

vocates of the Medicare Social Security Tax Program.

The American Medical Association—gearing up for another onslaught by Medicare forces—hopes the National Kerr-Mills Conference will provide the framework for improved implementation of Kerr-Mills at the state level and that it will also result in some constructive plans to perfect the Kerr-Mills Act at the Congressional level.

Oklahoma's delegates to the national meeting are well-qualified on the subject. Doctor Gullatt has handled all public welfare projects for the association for several years, and Doctor Bielstein is not only the principal architect of the OSMA's recommended implementation of a statewide health program for the needy elderly, but he has also chaired the Department of Public Welfare's Professional Advisory Committee since inception in 1957. □

DEATHS

JAMES G. PHILLIPS, M.D.
1906-1964

James G. Phillips, M.D., 58-year-old Oklahoma City physician, died in Oklahoma City, December 3rd.

A native of Stratford, Oklahoma, Doctor Phillips graduated from Rush Medical College in 1941. He was affiliated with the Veterans Administration Hospital in Oklahoma City for several years before establishing his private practice.

He served with the Medical Corps during World War II.

G. A. COMP, M.D.
1875-1964

Former Tillman County physician. G. A. Comp, M.D., died December 1st, 1964 in Norman.

Born in Sedalia, Missouri, in 1875, Doctor Comp graduated from St. Louis College of Physicians and Surgeons in 1903. He began his practice in Manitou, Oklahoma where he remained until his retirement in 1959.

The 89-year-old physician was ac-

tive in civic as well as medical fields and in 1952 was awarded the Woodman of the World plaque for commendable service in Manitou.

Doctor Comp was honored for his devotion to the medical profession when the Oklahoma State Medical Association presented him with an Honorary-Life Membership in 1948.

O. H. MILLER, M.D.
1896-1964

O. H. Miller, M.D., 68-year-old Ada physician died in Ada, December 8th, 1964.

Born in Goodnight, Texas, Doctor Miller graduated from the Baylor University College of Medicine in 1920. Following several years of general practice in Denison, Texas, he specialized in E.E.N.T. at Tulane University School of Medicine, moving to Ada in 1925.

In addition to his interest in the medical field, Doctor Miller participated in many civic affairs, serving on the Ada School Board for nine years. □

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PHARMACIST AND . . .

(Continued from Page 29)

the drug by its description but there is not an easy way to avoid knowing what a person wants when they ask for it by name. The pharmacist is anxious to have only the original pa-

tient obtain the drug that is being prescribed for him. Where the drug is administered under supervision such as in a nursing home, the requirement for such information on the label is understood.

The pharmacist is qualified by his training to compound prescriptions for the physician who wishes to prescribe specifically for his patients. The physician should be able to work

with the pharmacist in order that the best dosage form be made available to the patient, even though such prescriptions may require a bit more time than others. The pharmacist can contribute some real assistance if given the opportunity to do so. Such practitioners of pharmacy should be given every encouragement in these times of crass commercialism. □

Miscellaneous Advertisements

WILL BE VACANT about April 1st, Mauldin-Hill-Yates Clinic, 1301 SW 29th, Oklahoma City. Ideal for individuals or partnership. Much of neighborhood clientele pays cash for office calls. Well located, well established, (14 years). Not far from both hospitals, (1 new). 5,000 sq. ft., 25 rooms for examining and offices. Plenty of room for filing, laundry, conferences, supplies, etc. Central heat, air-conditioned, 3 good parking lots. Next door to a good drug store. Should be room for 3 or 4 M.D.s. Have had inquiries from individual doctors, if interested, maybe something can be worked out. Rent unbelievably low. Contact Ralph Wooten, ME 4-3317, or CE 6-8874.

GENERAL practitioners and internist needed for new medical center in fastest growing section of Albuquerque — 30,000 population/physician, at this time. A new area with good income, stable. Other physicians well established after six months practice. Contact John M. Casebolt, M.D., 9809 Candelaria, N.E., Albuquerque, New Mexico.

COUNTRY estate location — near Edmond, 160 acres on paving, rolling but smooth, lake, some timber one side, well fenced, no buildings, area increasing rapidly, some minerals. Make nice country home. Call Ray Coyner, broker, PL 4-0757 or PL 4-3685, Edmond.

BOARD eligible anesthesiologist wants practice opportunity in Oklahoma. Available July 1st. Contact Key C., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

TINKER AFB, Oklahoma, has a vacancy for one medical officer, GS-13, \$14,595 per annum. This position is in the Occupational Health and Medical field and is strictly day shift, 40 hours per week, with no night calls. Doctors may continue private practice during off-duty hours as long as it does not interfere with their attendance and performance of duties at the base. They may not accept or continue employment resulting in payment from the City, County, State or other Federal Agencies due to dual compensation laws. Interested general practice, as well as Occupational Health physicians, should contact Tinker AFB, telephone PE 2-7321, Ext. 2691, for qualification requirements and other detailed information concerning this position.

BIG SAVINGS on "Returned-To-New" and surplus equipment. Reconditioned, refinished, guaranteed, X-Ray, examining tables, autoclaves, ultrasonics, diathermies, or tables, or lights, and more. Largest stock in the Southwest. **WANTED:** Used Equipment. TeX-RAY Co., 3305 Bryan, Dallas. (Open to the profession Wednesdays, Thursdays, 9-5. Other hours by arrangement.)

INTERNIST seeking practice opportunity in July. 1961 O.U. graduate, now completing two-year residency in general internal medicine at University of West Virginia; Age 29. desires partnership opportunity or clinic practice. Contact Key W., The Journal, Oklahoma State Medical Association, P. O. Box 18696, Oklahoma City.

LOCATION WANTED: Oklahoma graduate, age 31, married, military obligation fulfilled, general practice experience. Will complete general surgery residency June 1965. Desire group or partnership practice. Contact Key G, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

PHYSICIAN needed to fill immediate vacancy. Opportunity to obtain considerable surgical experience. Compensation commensurate with experience, training and initiative displayed. Inquiries held confidential. Contact Key O, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

GENERAL physician needed for institutional work. Excellent working conditions in new facility. Pay \$1,000 to \$1,240 month, with opportunity for future salary advancement. Forty-hour week. Write Key J, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

BEGINNING residency training in July. Wish to sell partnership in clinic and hospital. No down payment. Southwestern Oklahoma town, recreational area. Contact Key H., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR RENT air conditioned, ground floor office, long-term lease available. Off-street parking, 1104 North Lee Street, Oklahoma City. Mrs. Neil W. Woodward, 4301 Lincoln Boulevard, Oklahoma City, JA 5-7028.

THE JOURNAL commemorates Heart Month with this issue and salutes its sponsor, the Oklahoma Heart Association whose members contributed the original scientific papers on myocardopathies.

The heart doesn't have many dramatic features except for the one, cold, stark fact that when it fails to function the entire individual, as we know him, ceases to exist. He may be president, poet, physician or peasant but he dies. The heart is a vital organ, deceptive in its complexity and irreplaceable.

Without the inspiration, guidance and encouragement of the Heart Association cardiology might still be a neglected field. Instead, no other structure of the body has been studied more intensively during the past few years. The results have been outstanding, even greater than proportionate to the number of men working in this field. The present level of advancement in understanding and treating diseases of the heart could not have been predicted in 1940.

Progress in all the medical sciences has been so consistent and so spectacular during the past twenty years that discussions of medical advances have gone out of style. We have grown accustomed to a steady supply of new ideas and revolutionary breakthroughs but fantastic progress must not be taken for granted. Hard work instead of complacency, and a good team spirit instead of individual isolation will continue to be the only means whereby medicine can forge ahead.

Heart Month is a celebration of things accomplished already and ambitions, dreams yet to be realized.—C. B. Dawson, M.D. □

Another Physical Fitness Report

TWO HUNDRED YEARS after this republic was founded by sturdy pioneers physical weakness has been found "prevalent" among modern Americans. The solution is under consideration by a Committee appointed by the Federal Government.

Some causes for this apparent physical deterioration have not been emphasized such as elevators and automobiles, supermarkets

and restaurants, electricity and gasoline. Part of the problem of course, began with man's inventiveness plus the abundance of material things in a land of plenty and these have been compounded by the laziness inherent in all of us. Even less discussed, but equally important, is the kind of status-fetish which is endemic among Americans.

Who has not seen the man who eats 2,000 calories for lunch, climbs in his car, drives two blocks to the hospital, waits five minutes for an elevator to take him up one floor and finally puffs 30 feet down the corridor to see his patient?

This man probably was born on a farm. As a youth very likely he was used to following a horse-drawn plough and pitching hay. His experience with labor-saving devices began only after he started medical practice and he is delighted to expound on the hardships of his early life.

This average American gentleman's children have muscles which are bursting with God-given vitality like his were years ago. What is to be done with this energy—mow the yard, dig flower beds or paint the house?

"No! The neighbors might see us and think we couldn't afford to have it done. It's better to hire people to do that sort of thing. Instead of *work*, let's give the children lessons in archery, bowling or swimming, just anything so long as it serves no practical purpose."

In line with this kind of thinking, children spend part of their time at school doing gymnastics because "they say" that too much emphasis on books during childhood produces stuffy adults. Likewise, children should not be subjected to extremes of heat or cold. A constant temperature with emphasis on labor-saving devices helps prepare them for adult life provided they are well trained in organized sports along the way. We must have nothing plebian for this generation so long as we can borrow the money. Not many years ago Americans lived in log cabins which they built with their own hands. They planted gardens in the spring and canned food to tide them over the win-

ter. Now, however, there's a feeling that if we are to show "progress" that others can see we must do as little as possible for ourselves. Is this an attempt to act out the old phrase about the "idle rich" which must have originated as a description for second (or last) generations of people with money? The old pioneers usually died from invasion by hostile bacteria but their heirs are being picked off by degenerative diseases.

Physical and even intellectual unfitness can be fostered by a man's misguided efforts to make things easier for his children than they were for him.

"As a boy I always wanted a car but my folks couldn't afford it, so I'll buy my kids convertibles as soon as they enter high-school."

This man wants his children to have everything, everything but an incentive to do something for themselves. The variations on this theme are endless.

With such exaggerated paternalism Americans seem to have produced a nation of physical weaklings within a few generations according to the surveys. Fortunately some Federal officials realize the national dangers inherent in individual weakness. Thank goodness! Their perspective may be bureaucratically oriented (a view that is automatically suspect in some quarters) but everyone realizes, more or less accurately, that the problem exists and grows larger every day. We may not agree with the proposed solutions but half the battle is won when people recognize that there is a problem in this area. The next step is for all of us to look for the best solution, individually and collectively.

"But . . . let George do it, I'm all tuckered out after working like a dog 35 hours last week."—C. B. Dawson, M.D. □

Is Private Enterprise A Thing Of the Past in Medicine?

I RECENTLY heard this very question posed in a meeting. No specific answer was given. It deserves thought and consideration.

The answer should be an unqualified "No." In order to have such an answer we must qualify our way of thinking. We must remember that free enterprise means many things to many people. If we think only in terms of rugged individualism it appears that such an image is becoming less and less evident in all of our ways of doing things today, the practice of medicine certainly being no exception. Let us therefore, in the manner of the Bible, speak for a minute in parables.

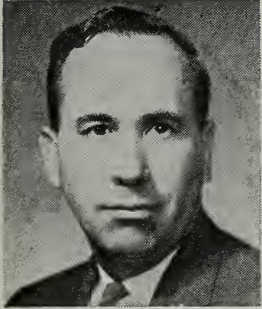
A certain man invented a product needed and desired by many. He therefore began to make and sell this item in his own shop, one item at a time. The desirability of his product, with his fine workmanship, spread its fame until he soon found himself unable to supply the demand. Seeking the advice of the wise men of the area, he was told that he would need to do one of two things: either sell his exclusive right to make the product to others, or form a company, sell stock, raise capital, and so be able to build a factory, hire workers, and supply the demand. He was further advised that he might best let others who were more skillful in that art form an organization to care for the selling and distribution of the product, in this way confining his interest to the making of the product at which he was most skillful. He, therefore, formed the company and gave the selling rights to others.

Lo and behold! He found that he was no longer boss in all of his affairs. Even though he was greatly respected and his advice considered carefully, the stockholders and the directors made the decisions. No longer could he make special prices to his friends or to those of the low income groups since the sales company had one price for all. Yet his company thrived and his products gave comfort and service to many instead of to the few that he could have served alone.

In time he was honored far and near as a prime example of what one can do under private enterprise. His methods have become an established way of management. They are the very foundation of the industrial life of our country.

And so it is with the practice of medicine. We have made a great product. It is needed and desired by the many. We find ourselves

(Continued on Page 64)



On the tenth of January of this year there was a meeting of the joint boards of the Oklahoma State Medical Association and the Blue Shield plan. This was, I believe, the beginning of a new era of good relations and understanding

between the two groups. There was a free exchange of ideas and complaints that were accepted in a spirit of tolerance and honest desire to work toward solution of the common problems that confront us.

It is quite evident that the medical profession must again recognize the importance of the Blue Plans in the over-all pattern that we must formulate to stop the infringement of Government on the practice of Medicine. This does not suggest that we must submit to domination by anyone, but that we must learn to work with others in trust and sincerity. This, I believe we can safely do without fear of any effort by those involved to dominate our practice.

Due to the lack of knowledge of the intricate nature of insurance, or through a feeling of distrust by many of our members, we sometimes hear them unfairly compare the Blue plans to other insurance companies. Such critics will tell you how they get coverage at a lower cost, etc. I wonder if they have stopped to reason why?

Let me tell you why with a few figures: These private companies do not cover the field as well as Blue Cross or Blue Shield. They only accept the cream of the risks, whereas the Blues must accept all risks, good or bad. Many people would be left without coverage if the policies were all the same.

Let us study some of the figures relating to the amount of the premium returned by those that sell insurance.

Twenty-four companies that are selling in Oklahoma return to the insured an average of only 43 per cent of the fees paid to them. This shows that they retain 56 per cent for themselves. Blue Cross and Blue Shield return 89 per cent of all funds collected in Oklahoma, retaining only 11 per cent for expense. Nationally, the figures are even better. The Blues return 92 per cent of all funds collected.

So, you can easily see that it is unfair to compare the cost of insuring only the good risks to those covering all risks as does Blue Cross and Blue Shield. If the entire field is not covered, the Government will see a great need to fill the gaps. Every weak spot that we leave in this field is immediately exploited, causing the medical community to be frowned upon by even some of the well-meaning people.

I believe that all this talk and the meeting of these two boards has left no doubt in the minds of both groups that we can and must work together for the common good of the people that we serve. Our misunderstandings, large or small as they may be, must be worked out by negotiations in an atmosphere of cooperation and trust.

I urge all of you to learn more about the services offered by your Blue Cross and Blue Shield. You will find all their officials and employees more than anxious to make this information available to you. Once you are familiar with their service to the people and the profession, I am sure that you will be more willing to listen to what they have to say.

Harlan Thomas MD

The Mycardiopathies

Structural and Functional Changes

LOYAL L. CONRAD, M.D.

A discussion of the mechanisms by which a group of diseases once considered rare result in cardiac disability and how they may be recognized clinically.

THERE IS a multiplicity of agents which specifically affect the myocardium leading to cardiac hypertrophy and enlargement, congestive heart failure, rhythm and conduction disturbances, and, at times, thromboembolism. Infectious disease, toxic and metabolic states, and vascular disease have been identified casually in producing myocardial lesions. Also included in this general category are myocardial lesions of a familial nature as well as those of unknown etiology. Although atherosclerotic coronary artery disease is generally excluded from this group,^{1,2} there seems to be no good reason to do so because the anatomic and hemodynamic changes are essentially the same as in the mycardiopathies due to other causes. All of the mycardiopathies, regard-

less of etiology, have certain structural and functional changes in common. Therefore, an appreciation of the effects of structural alteration on cardiac function is important not only for a fuller understanding of the clinical features of these illnesses but of normal function as well.

STRUCTURAL CHANGES

One of the most striking structural modifications of the myocardium in response to injury is *ventricular hypertrophy*. By virtue of its greater initial mass and workload, the left ventricle is affected particularly and in most of the mycardiopathies, the changes are greatest in number as well as in degree in the left ventricle as compared with the right ventricle. The cause for the hypertrophy is unknown. It is a necessary response, perhaps, on the part of less affected myofibers when they are called upon to take over the function of other more severely damaged fibers. Obviously, the presence of left ventricular hypertrophy detected by means of physical examination or electrocardiography is an important finding. Characteristically, the apex impulse, usually not palpable in normal individuals, becomes thrusting or heaving in character.

Left ventricular hypertrophy may be asymmetrical; that is, the muscle of the in-

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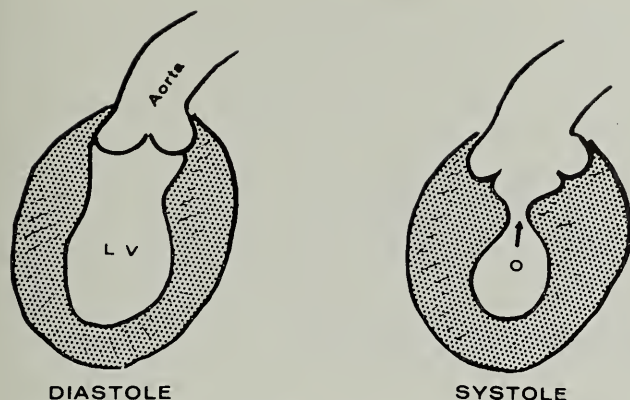


Figure 1. Left ventricle during diastole and systole showing obstruction to outflow due to contraction of hypertrophied muscle of outflow tract during systole (o).

traventricular septum or outflow tract of the ventricle may hypertrophy to a greater extent than the muscle of the free wall (figure 1). As a result of hypertrophy of the outflow tract, the flow of blood from the ventricle to the aorta during the ejection phase of systole may be impeded. A systolic ejection murmur will occur as a result of the obstruction. This particular form of outflow obstruction has been identified in glycogen storage disease of the heart,³ in familial left ventricular hypertrophy⁴ and in an idiopathic form.⁵ Its development has been recorded during the course of idiopathic myocardial hypertrophy.⁶ The coexistence of right and left ventricular obstructive disease has been described.⁷ Hypertrophy of the free wall of the left ventricle may result from the increased workload imposed by outflow tract obstruction.

In addition to outflow tract obstruction, ventricular hypertrophy results in another significant hemodynamic phenomenon, the decrease in ventricular compliance due to increased thickness of the ventricular wall. Ventricular filling can be achieved only by higher diastolic filling pressures and increases in atrial and venous pressures since the ventricle is less distensible. Thus the stage is set for transudation of fluid from the pulmonary and systemic capillaries. Because the atrium works under an increased load in overcoming the increased resistance to filling offered by the less compliant ventricle, atrial hypertrophy and enlargement occurs. The fourth heart sound increases in intensity and is heard as an atrial or presystolic gallop. This sound is the direct clin-

ical evidence of decreased ventricular compliance.

Myocardial infiltration is an anatomic feature common to many of the myocardiopathies. The infiltrate may be inflammatory, neoplastic, or it may be composed of material such as hemosiderin or amyloid. The atria or ventricles may be involved. Functionally, the important changes produced by infiltration are those due to the decreased compliance of the atrial and ventricular myocardium leading to restrictions in cardiac filling and those due to involvement of the pacemaker or conducting tissues leading to rhythm or conduction disturbances. In addition, atrophy of the uninvolved muscle may occur due to compression by the infiltrate so that cardiac failure may be superimposed due to loss of actively contracting muscle mass. The clinical evidences of myocardial infiltration result from the functional disturbances: the appearance of an atrial gallop due to decreased ventricular compliance, the picture of congestive heart failure due to restricted ventricular filling, conduction defects such as heart block of varying degree, and rhythm disturbances such as atrial tachycardias and fibrillation. The electrocardiogram may show direct evidences of infiltration such as primary T-wave changes or local injury effects (RS-T junction changes), but more commonly it shows decreased voltage in the limb and precordial leads.

FUNCTIONAL CHANGES

The anatomic background of the common functional changes has been mentioned in the preceding paragraphs. *Congestive heart*

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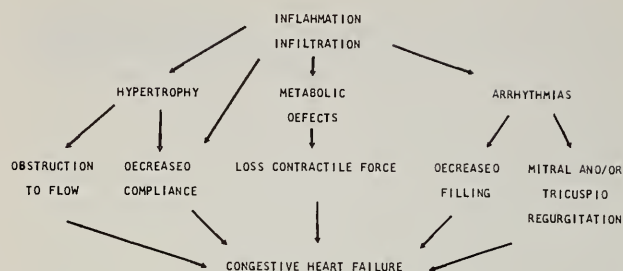


Figure 2. Interrelationships between structural changes (inflammation, infiltration, hypertrophy) and functional changes (obstruction to flow, decreased compliance, loss of contractile force, arrhythmias) and congestive heart failure.

failure may result from a decrease in myocardial contractile force due to necrosis or atrophy or it may result from metabolic changes due to the presence of a toxin or enzyme deficiency. Likewise it may result from altered hemodynamics due to a restriction in ventricular filling. In any case there is a rise in the ventricular end-diastolic pressure necessitating a rise in atrial pressure with resultant pulmonary and systemic edema when plasma oncotic pressures are exceeded. Cardiac dilatation commonly accompanies heart failure and contributes to the development of some of the signs attributed to a failing myocardium. The early diastolic gallop (ventricular gallop) and associated flow murmur are related to rapid changes in pressure occurring in the ventricular cavity during the passive phase of rapid ventricular filling. Why the sound is audible in cardiac dilatation and failure is not known; it represents, however, an exaggeration of the third heart sound which is not heard in the normal adult. Pansystolic murmurs of mitral and/or tricuspid regurgitation are usually present in heart failure. These have been ascribed variously to dilatation of the annuli of the atrioventricular valves, to downward displacement of the valve cusps due to the tension placed on the chordae tendineae by the enlarging ventricle and to weakness of the papillary muscles. Whatever the mechanism, the regurgitation, when present, may compromise the forward

stroke output significantly aggravating the failure picture. The murmurs tend to disappear as treatment of the heart failure becomes effective. The presence of *arrhythmias* contributes to the failure picture as well. The forward stroke output may decline in the tachycardias either due to decreased ventricular filling or the presence of significant mitral or tricuspid regurgitation.^{8,9} In those arrhythmias characterized by A-V dissociation and in atrial fibrillation, the loss of concerted atrial contraction to assist ventricular filling leads to a further diminution in cardiac output.¹⁰ The interrelationships of these structural and functional changes have been depicted in figure 2.

SUMMARY

The anatomic and functional changes which occur in the myocardopathies are described briefly. These changes may be seen to a varying degree in any given case. Obstruction to ventricular outflow, an altered ventricular compliance, rhythm disturbances, and congestive heart failure are the functional consequences of the myocardopathies. Some of the common clinical findings are discussed in this context. □

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The Mycardiopathies

Hemodynamic Alterations

JOHN D. KYRIACOPOULOS, M.D.*

In mycardiopathies the hemodynamic alterations are due to changes in the compliance of the heart. These changes are accurately reflected on the ventricular diastolic pressure.

IN PREVIOUS ARTICLES of this symposium, it already has been mentioned that in mycardiopathies regardless of cause, the ultimate anatomic change is diffuse cardiac hypertrophy. Furthermore, it has been emphasized that the hypertrophy may be either uniform, *i.e.*, symmetrical; or asymmetrical, *i.e.*, the ventricular septum may be disproportionately thickened, leading to obstruction of the outflow tract of the right, left or both ventricles. Therefore, from the hemodynamic point of view the cardiomyopathies can be divided into two groups: (a) the obstructive group, of which subaortic hypertrophic stenosis is an example; and, (b) the non-obstructive group of which the chief alteration is increased impedance to the diastolic filling of the ventricles.

The obstructive mycardiopathies have been reviewed thoroughly by Braunwald¹ and others.²

The purpose of this communication is to present a brief account of the hemodynamic alterations which occur in the non-obstructive mycardiopathies.

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In the catheterization laboratory it has been demonstrated that elevation of the ventricular end-diastolic pressure (VEDP) is the major hemodynamic abnormality that occurs in a mycardiopathy whether due to amyloid infiltration,³ endocardial fibroelastosis,⁴ myocardial fibrosis,⁵ myocarditis,⁶ arteriosclerotic-hypertensive, etc., or due to unknown cause (primary myocardial disease).^{7, 8, 9} The VEDP may be elevated but still within the normal range (LV up to 12, RV up to 6 mm Hg), but more frequently it is increased in proportion to the severity of the disease.

The configuration of the ventricular pressure curve is equally important as the VEDP. The diastolic portion of the ventricular pressure curve is characterized by an early diastolic dip, corresponding to the passive early rapid ventricular filling which indicates that the flow of blood at the atrio-ventricular valve level is unobstructed. Soon thereafter however, the ventricular diastolic pressure rises sharply to a plateau which is maintained until the next contraction begins. The normal intact ventricle, following the early rapid filling phase, responds to additional volumes of blood by distention, raising its pressure only slightly during atrial contraction. In mycardiopathies the ability of the ventricle to distend is severely curtailed initially, and later it is lost completely. This decrease in compliance¹⁰ means that a normal diastolic blood volume or less will stimulate an inordinate rise in pressure.

Since the atrial pressures, and therefore the pulmonary and peripheral venous pressures, are governed by the respective ventricular diastolic pressures (mean right

atrial pressure is less than mean left atrial pressure, since RVDP is less than LVDP) it follows that changes in their pressures and pressure curves also will be found in myocardiopathies.

In general, the mean atrial pressure is elevated proportionately to the VEDP. The pressure curve shows a tall a-wave (atrium contracting against increased ventricular diastolic pressure) which is followed by a deep X-valley (relaxation of atrium during ventricular contraction). As the less compliant atrium begins to fill and the pressure within it rises steeply, a tall V-wave is inscribed followed by a rapid Y-descent during the early rapid filling phase of ventricular diastole. Thus, the classical M or W-shape of the atrial contour appears. Identical changes are found in the systemic and pulmonary venous systems. Consequently, the indirect jugular phlebogram and the pulmonary capillary-venous (wedged) pressure accurately reflects the right and left atrial pressures as well as the right and left ventricular end-diastolic pressures.

Pulmonary hypertension of some degree is present almost invariably. Usually it is mild or moderate and in most instances it is passive in nature due to pooling of blood in the pulmonary circulation. In some cases the pressure may be elevated from an increase in pulmonary arterial resistance (reactive)¹¹ or as a result of multiple pulmonary emboli.

Ultimately, congestive heart failure develops and regurgitation of the A-V valves may appear. In addition, a further rise in the VEDP, atrial, wedged and peripheral venous pressures occurs.

Catheterization studies following digitalization have demonstrated that the VEDP and atrial pressures can be reduced but no change in the contour of the pressure curves develops.

It should be mentioned that the hemodynamic alterations may be present or even exaggerated in only one side of the heart since myocardiopathies may selectively or predominantly involve either the right or left heart. This is true particularly in idiopathic hypertrophy of the heart because the left ventricle is nearly always the main focus

of involvement. In addition, the primary myocardiopathies may at times become manifest as obstructive lesions.

The cardiac output and index (cardiac output per M² surface area) are at the lower limits of normal, or decreased, while the arteriovenous oxygen difference is greatly increased at rest. During exercise little or no increase in the cardiac output occurs despite the inordinate rise in O₂ consumption. Unlike the cardiac output, the VEDP and the pressures in the pulmonary circulation rise sharply.

We have described certain hemodynamic alterations due to changes in compliance of the myocardium which are common to a large group of myocardiopathies. These changes however, although characteristic, are far from being unique to this group of diseases. The early diastolic dip and plateau of the ventricular curve and the M or W-shaped atrial curve were described first in constrictive pericarditis¹² and in cardiac tamponade and once they were thought to be pathognomonic of these lesions. In addition, pressure curves from children with severe pectus excavatum,¹³ but otherwise free of cardiac disease, are identical with those of constrictive pericarditis.

That constrictive pericarditis and cardiac tamponade produce hemodynamic changes identical with those of the cardiomyopathies, is not surprising since they also alter the myocardial compliance. In cardiomyopathies the ventricle is no longer distensible due to factors intrinsic in the myocardium, whereas in constrictive pericarditis and tamponade the ventricle cannot expand either because it is encased within a shell or because the pericardial pressure is increased. The result is the same, namely an increased resistance to the diastolic filling of the ventricle.

Cardiac catheterization studies are not necessary in all cases of myocardiopathies. The history, physical findings, electrocardiograms and roentgenograms are usually ade-

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quate for the correct diagnosis. In an occasional patient, the physician may be confronted with the problem of a coexisting extrinsic (constrictive) and an intrinsic (myocardiopathic) lesion. In this case cardiac catheterization is of value. The rapidity with which the pressure in the ventricle rises during the isometric part of ventricular contraction, as well as the magnitude of the intraventricular pressure serves as an index of the performance of the myocardium. A slow upstroke of the ventricular pressure curve combined with a low intraventricular pressure indicates a poor myocardium. If a myocardial performance curve¹⁴ is constructed by plotting the stroke work against the VEDP in a patient with a myocardiopathy it indicates that as the VEDP rises the stroke work decreases, which reflects poor cardiac reserve.

SUMMARY

The myocardiopathies cause an abnormal elevation of the ventricular end-diastolic, atrial and venous pressures. This abnormal elevation is due to an alteration in volume-pressure (compliance) relationships which are identical to those of constrictive pericarditis or cardiac tamponade. Extrinsic and

intrinsic lesions producing similar hemodynamic changes may be differentiated by studying the performance of the myocardium in the cardiac catheterization laboratory. □

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OSMA REGIONAL POSTGRADUATE COURSE

"The Thyroid"

Ponca City Country Club

Ponca City, Oklahoma

FEBRUARY 23rd, 1965

AFTERNOON SESSION

- 4:30 p.m. THE IODINE CYCLE AND THYROXINE SYNTHESIS
G. Rainey Williams, M.D.
- 5:00 p.m. THYROID FUNCTION TESTS, NEW AND OLD
Carl Smith, M.D.
- 5:30 p.m. THYROID FUNCTION DURING PREGNANCY
Warren Crosby, M.D.

EVENING SESSION

- 7:30 p.m. NATURAL HISTORY OF THYROID NODULES
Carl Smith, M.D.
- 7:50 p.m. MANAGEMENT OF THYROID NODULES
G. Rainey Williams, M.D.
- 8:10 p.m. PANEL: TREATMENT OF HYPERTHYROIDISM
(a) Surgical: G. Rainey Williams, M.D.
(b) Medical: Carl Smith, M.D.
(c) During Pregnancy: Warren Crosby, M.D.

Registration \$7.50 includes dinner

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The Myocardiopathies

Some Electrocardiographic Features

JOHN NAUGHTON, M.D.

The electrocardiographic alterations of the myocardiopathies usually reflect the specific chamber enlargement. There is no convincing evidence that the concentric or eccentric types of ventricular hypertrophy produce a specific type of electrocardiographic pattern.

THE MYOCARDIOPATHIES occur in several commonly observed disease states. Among these are rheumatic heart disease, coronary atherosclerosis and hypertensive cardiovascular disease. In recent years attention has been directed toward investigating the less commonly observed forms of myocardial pathology, *i.e.*, idiopathic ventricular hypertrophy and familial cardiomegaly.

Some electrocardiographers have attempted to define the electrocardiographic alterations in patients with myocardiopathies in terms of the pathological physiology. For instance, Cabrera and Monroy¹ suggested that concentric myocardial hypertrophy could be differentiated from the eccentric form by the configuration of precordial leads in V₅-V₆. These authors reasoned that car-

diomegaly resulted either from diastolic overloading (which stimulated an increased cardiac output) or from systolic overloading (which resulted from increased peripheral resistance). Patients with the former had an increased R-wave and T-wave amplitude in V₅-V₆ while the latter subjects characteristically had a flattening of the T-wave with a depressed ST-segment in corresponding precordial leads.

In an attempt to define further the characteristics of the electrocardiogram in these two forms of myocardial hypertrophy, Selzer² correlated the electrocardiographic changes in patients examined post-mortem. The electrocardiographic alterations were comparable in both forms of left ventricular hypertrophy (table I). Their investigation indicated that the electrocardiographic alterations are similar in most forms of ventricular enlargement regardless of whether the entire muscle mass (free wall and interventricular septum) or selective areas of muscle have hypertrophied.

TABLE I

ECG findings	Type of Hypertrophy	
	Concentric	Eccentric
L VH	11	9
ST-depression	8	8
T-wave inversion	8	11
Flattened T-wave	1	1

Table I. Selzer² compared the electrocardiographic findings with the post-mortem data obtained from 27 patients with either concentric or eccentric ventricular hypertrophy. No differential electrocardiographic pattern was found.

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This work was supported in part by the PHS Research Grant No. HE-06286-04 from the National Heart Institute.

TABLE II

ECG findings	Paré (20 patients)	Wigle (10 patients)
Abnormal P-wave	5	—
Atrial Fibrillation	1	—
Abnormal Q-wave	4	5
LAH	—	7
LVH	3	9
Intraventricular block	6	—
ST-depression	10	—
T-wave flattened or inverted	19	—

Table II. Electrocardiographic abnormalities are compared in two groups of patients with myocardiopathies. The most common electrocardiographic feature in the two studies is evidence of left ventricular hypertrophy.

The electrocardiographic abnormalities in the myocardiopathies include arrhythmias, intraventricular blocks, abnormal Q-waves and evidence of multiple chamber hypertrophy (table II). The most common features are an increased amplitude of the R-wave with T-wave depression or inversion in V_5 - V_6 .

Westlake³ reported one family with a high incidence of Wolff-Parkinson-White syndrome and cardiomegaly. Of the 47 individuals studied in four generations he was able to document five cases of WPW alone, one individual with idiopathic ventricular hypertrophy and six persons with a combination of WPW and cardiomegaly. He attempted to correlate the development of left

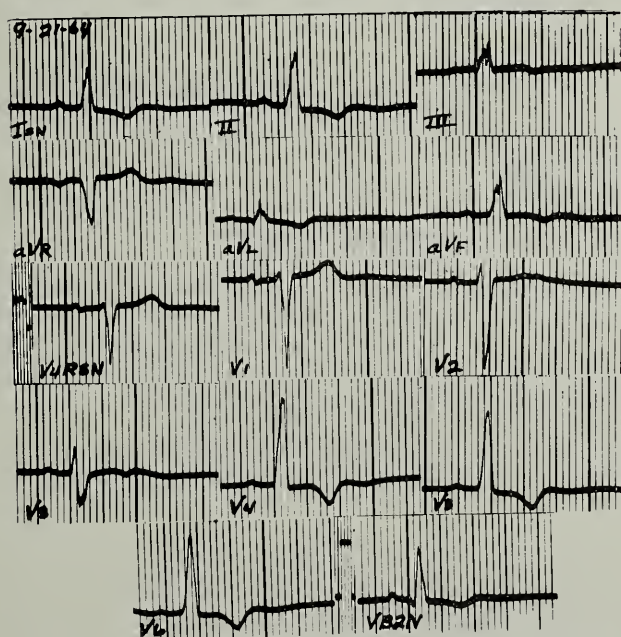


Figure I. A standard electrocardiogram on a 34-year-old Negro with idiopathic left ventricular hypertrophy. There is increased voltage of the QRS in V_5 - V_6 with late inversion of the T-wave.

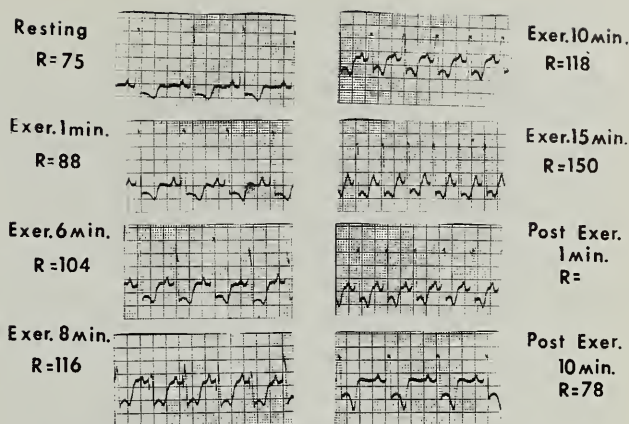


Figure II. Representative electrocardiographic tracings recorded while the patient was walking demonstrate marked depression of the RS-T junction. The patient did not develop chest pain.

ventricular hypertrophy with one form of WPW (type-B), but admitted that there should be also an increased incidence of right ventricular hypertrophy in those individuals with the type-A WPW syndrome. The latter has not been documented.

The RS-T wave abnormalities found in patients with myocardiopathies have not been explained satisfactorily. Their form is often similar to changes seen in persons with myocardial ischemia secondary to coronary atherosclerosis, yet many of these patients have had normal appearing coronary arteries at post-mortem examination.

During the past three years a 34-year-old Negro male with idiopathic hypertrophy of the heart has been studied periodically at the University of Oklahoma Medical Center. His standard electrocardiogram (figure I) reveals increased voltage of the QRS V_4 - V_6 with late inversion of the T-wave. Additional single lead electrocardiograms recorded during acute exercise and for several hours while performing routine duties have shown pronounced depression of the RS-T junction (figure II). The form of these changes is similar to alterations that occur characteristically during physical activity in many patients with angina pectoris. This ex-

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aggregated electrocardiographic response may represent a state of myocardial hypoxia which resulted not from occlusive coronary arterial disease, but from an anatomically normal coronary arterial tree which is grossly diminished in relation to the total muscle mass it must nourish.

Wigle⁴ and Paré's⁵ series of patients with idiopathic myocardial hypertrophy includes a high incidence of abnormal Q-waves (table II). These may resemble the Q-wave usually seen on the electrocardiogram of people with myocardial infarction. The presence of this finding without other evidence of myocardial infarction may indicate that the patient's disease may have been further complicated by subendocardial fibroelastosis. Thomas⁶ found in 24 cases of chronic heart disease with hypertrophy studied post-mortem that 20 had some degree of subendocardial fibroelastosis. Idiopathic hypertrophy of the heart accounted for 2.3 per cent of all cases of congenital heart disease at the Mayo Clinic⁷ when considered alone. However,

when fibroelastosis was included the incidence rose to 3.1 per cent.

SUMMARY

Arrhythmias, intraventricular blocks, abnormal Q-waves and selective chamber enlargement occur in patients with myocardiopathy. The most common electrocardiographic alterations are increased amplitude of the R-wave with a flattened or inverted T-wave in V₅-V₆. The evidence that the electrocardiogram is a good means for differentiating eccentric from concentric ventricular hypertrophy is not convincing. □

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800 N.E. 13th. Oklahoma City, Oklahoma

OSMA REGIONAL POSTGRADUATE COURSE

"The Small Intestine"

Lake Murray Lodge

Ardmore, Oklahoma

MARCH 23rd, 1965

AFTERNOON SESSION

- 4:30 p.m. Basic Science
(a) Structure
(b) Absorption
(c) Motility
- 5:30 p.m. Malabsorption Syndrome
Jack D. Welsh, M.D.
- 6:00 p.m. Diagnostic Methods in Small Bowel Disease
G. Victor Rohrer, M.D.

EVENING SESSION

- 7:30 p.m. Radiological Diagnosis in Disorders of the Small Intestine
Leonard E. Swischuck, M.D.
- 8:00 p.m. Problem Case Conference
Jack D. Welsh, M.D.
G. Victor Rohrer, M.D.
Leonard E. Swischuck, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category 1 Credit by the American Academy of General Practice

The Mycardiopathies

Therapy and Prognosis

JOHN M. KALBFLEISCH, M.D.

The morbidity and mortality of primary myocardial disease can be reduced by early recognition and prompt treatment of congestive heart failure, arrhythmias and thrombo-embolic episodes, but the overall prognosis remains poor.

PROMPT RECOGNITION of the clinical features of primary myocardial disease in patients with cardiac symptoms is essential in establishing an early diagnosis. This, in turn, leads to improved management of the patient with a reduction of morbidity and mortality. Occasionally, a specific etiology can be established and treatment may be altered accordingly. Recent reports of the successful surgical palliation of idiopathic hypertrophic subaortic stenosis, emphasize the importance of an adequate clinical evaluation.¹

Whatever the etiology, the basic management of patients with primary myocardial disease is directed toward the clinical manifestations and complications of the disease, namely: congestive heart failure, arrhy-

thmias, conduction disorders and thrombo-embolic phenomenon.

CONGESTIVE HEART FAILURE

The therapy of congestive heart failure resulting from myocardial insufficiency is the same whether the myocardium fails as a result of primary or secondary involvement. Adequate digitalization and maintenance therapy with a cardiac glycoside is essential. The digitalizing dose must be individualized since these patients may be much more sensitive to the drug than are individuals with other forms of cardiac disease. Several studies have shown that the cardiac glycosides may intensify the muscular obstruction of the ventricular outflow tract in those individuals who have developed idiopathic hypertrophic subaortic stenosis. These patients had increased symptoms as a result of a reduced cardiac output.¹ Some individuals have experienced clinical improvement when digitalis was withheld. Hence, it has been recommended that digitalis should not be used in those patients who have ventricular outflow tract hypertrophy except when atrial fibrillation with a rapid heart rate present.

The judicious use of diuretics is indicated and may be very effective in mobilizing edema. The potent sodium excreting properties of the thiazide group of diuretics has alleviated the need for severe sodium restric-

From the Department of Medicine, University of Oklahoma Medical Center, and the Medical Service, Veterans Administration Hospital, Oklahoma City, Oklahoma.

Therapy / KALBFLEISCH

tion in non-refractory cases of cardiac failure. A dietary restriction of two grams of sodium daily is usually adequate.

Complete bed rest should be enforced initially to minimize the work requirements of the patient's heart. Thereafter, activity should be moderately restricted until the cardiac silhouette has attained its minimum size. The clinical course is often characterized by recurrences of congestive heart failure even while the patient is being managed adequately otherwise. Burch and Walsh have emphasized the therapeutic value of absolute, long term bed rest in five patients who had myocardial degeneration of unknown cause.² All of them had persistent congestive heart failure despite the usual therapy. A moderate to marked decrease in heart size occurred after ten to 13 months of hospitalization in each case. Two of the patients had resumed their normal activities at the time of this report. While the length of hospitalization may seem drastic, the persistence of congestive heart failure after the usual conventional measures have been employed indicates a grave prognosis.

ARRHYTHMIAS

The appearance of an arrhythmia³⁻⁶ during the clinical course of the myocardio-pathies is not unusual and may be responsible for sudden death. The frequency, duration and response to therapy of these ectopic rhythms are quite variable. Attention should be directed toward the correction of electrolyte imbalances, particularly potassium deficiency and acidosis, since any form of therapy will be less effective if these disorders are present. Likewise, proper digitalis maintenance is important because toxicity may be encountered with greater frequency in these patients, which may produce arrhythmias and conduction disorders.

Premature ventricular contractions and atrial fibrillation constitute the most frequent arrhythmias. Supraventricular, ventricular and nodal rhythms often occur. Standard drug therapy with either quinidine or pronestyl should be used if the arrhythmia is contributing to or actually causing

congestive heart failure. Drug therapy is frequently unsuccessful. In such cases the use of direct current cardioversion has been a safe and effective method of treatment for atrial fibrillation, atrial flutter, supraventricular tachycardias, nodal tachycardias and ventricular tachycardia.⁷

Occasionally, complete atrioventricular dissociation occurs and this may result in death. If syncopal episodes are precipitated or if symptoms of angina pectoris and congestive heart failure become more severe, a trial of corticosteroids is warranted. Even though the pathological findings are frequently those of myocardial inflammation, corticosteroids have had little influence on the clinical course of patients with myocardio-pathies. When therapy with drugs such as isoproterenol is ineffective, consideration should be given to the surgical implantation of electrodes for an internal pacemaker.

THROMBO-EMBOLISM

Nearly one-third of the patients with primary myocardial disease will have either systemic or pulmonary emboli during the course of their illness. These may arise either from atrial or ventricular mural thrombi or from peripheral veins. The likelihood of thrombo-embolic phenomena is increased in those patients with intractable congestive heart failure or prolonged bed rest. Anticoagulation with heparin or coumarin-like compounds should be employed in those patients with any manifestations of thrombo-embolic episodes or in those patients with a predisposition to these complications.

PROGNOSIS

The clinical course of a myocardio-pathy may assume an acute, subacute or chronic form. Sudden death is not uncommon in any

John M. Kalbfleisch, M.D., is an Instructor in Medicine at the University of Oklahoma School of Medicine where he graduated in 1957. He is certified by the American Board of Internal Medicine.

Doctor Kalbfleisch is a member of the American Federation for Clinical Research.

of the form. It may result either from arrhythmias or massive pulmonary emboli. The most common cause of death is congestive heart failure. Patients with primary myocardial disease have died from septicemia, aspiration pneumonia and shock. In one series of 32 men with primary myocardial disease, the average duration of life after the onset of symptoms was 3.7 years.⁴

In a few patients the heart has returned to normal size after the initial episode, and other patients have lived for years with minimal manifestations of the disease. More often, the clinical course is characterized by repeated episodes of congestive heart failure and persistent cardiomegaly. A grave prognosis is likely if the patient has persistent cardiomegaly, a gallop rhythm, an intraventricular block and repeated episodes of congestive heart failure. This type of clinical course is typical in younger subjects with the disease with death occurring from two to 12 months after the symptoms begin.

In general, the prognosis for patients with idiopathic hypertrophic subaortic stenosis is better than for those with other forms of primary myocardial disease. Disability is more progressive. However, sudden death is not uncommon, and tends to be more frequent in patients with the familial form of the disease. Palliative surgical treatment in those patients with severe outflow tract obstruction often improves the prognosis

even though the underlying myocardial pathology is not affected.

SUMMARY

Early recognition of primary myocardial disease is necessary to reduce morbidity and mortality even though specific therapy is not available in most instances. Treatment is directed toward reducing cardiomegaly, congestive heart failure, arrhythmias and conduction disturbances, and thrombo-embolic episodes. Those patients who develop severe outflow tract obstruction should be recognized and considered as candidates for surgical palliation.

The prognosis of patients with primary myocardial disease is variable, but generally is poor. Chronic congestive heart failure is the most common cause of death in this group.

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800 N.E. 13th, Oklahoma City, Oklahoma

OSMA REGIONAL POSTGRADUATE COURSE

"THE BLOOD"

Western Sands Motel

Woodward, Oklahoma

MARCH 30th, 1965

AFTERNOON SESSION

- 4:30 p.m. Drug Induced Blood Dyscrasias
Richard A. Marshall, M.D.
- 5:15 p.m. The Treatment of Acquired Bleeding Disorders
James W. Hampton, M.D.

EVENING SESSION

- 7:30 p.m. Iron Deficiency Anemias
Walter Whitcomb, M.D.
- 8:15 p.m. Problem Case Conference
James W. Hampton, M.D.
Richard A. Marshall, M.D.
Walter Whitcomb, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category 1 Credit by the American Academy of General Practice

ELDERCARE VERSUS MEDICARE

An eight-year struggle over the best method of providing health care for the aged will come to an end in 1965.

Government and labor leaders have doggedly pursued the same theme throughout the years of debate—advocating increased Social Security payroll taxes to finance a centrally-controlled program of limited hospital and nursing home benefits for all persons over age 65 regardless of their need.

On the other hand, organized medicine and other groups have been equally stubborn in insisting that federal general revenue taxes and state taxes be used to provide comprehensive health care benefits for aged persons in true need, and have tried to maintain state control and flexibility.

Two principal rival bills are now pending Congressional action, and a decision is expected within the next six to eight weeks.

The Administration's bill, known as S. 1, in the Senate, has been co-authored by forty-four Senators, including Oklahoma's A. S. (Mike) Monroney. It provides the following benefits for all U.S. citizens over age 65: Up to 60 days' hospital care (after deductible of about \$40.00); up to 60 days' nursing home care following transfer of patient from a general hospital; outpatient diagnostic services at a hospital subject to a \$20.00 deductible each month; and, up to 240 home visits a year by visiting nurses. Participating hospitals and nursing homes would be subject to strong federal controls, and medical staffs would be placed under strict utilization regulations.

Eldercare Plan

Recognizing the gravity of the political situation brought on by the

defeat of many Medicare opponents during the last Congressional election, the American Medical Association has introduced a last-minute alternative to the Social Security bill, known as the Herlong-Curtis Eldercare Bill, H.R. 3727.

This measure is actually a perfected version of the Kerr-Mills Law which has been the AMA's alternative to Medicare since its passage in 1960.

The Eldercare Program calls for federal and state tax support to provide comprehensive medical, hospital, nursing home and drug benefits to all persons over age 65 under state designed and controlled programs which utilize Blue Cross-Blue Shield or health insurance companies to furnish health insurance policies. According to state-determined standards of income, persons with incomes below a certain level will have their health insurance premiums paid in full, persons in the middle income group will share the premium cost with the taxpayers, and persons with incomes over the top ceiling may purchase the high-benefit program with their own private resources.

No government controls will be placed on hospitals or doctors, nor will any aged person be required to participate in the program.

The main advantage of the Eldercare Program, stated in brief, is that it offers more benefits to the elderly at less cost to the taxpayers (because tax-paid benefits are not extended to several million persons who are well able to pay their own premiums).

Chances of defeating Medicare and replacing it with Eldercare are "slightly less than 50-50," according to Rex E. Kenyon, M.D., Chairman of the Oklahoma State Medical Association's Council on Public Policy.

"Despite the odds, we do not intend to stand idly by and willingly submit to the passage of a bill which provides inadequate benefits for the needy—which wastes tax funds on persons of substantial private wealth—and which provides the framework for massive expansion toward complete socialized medicine."

Giant Public Education Programs

Kenyon announced OSMA plans to join the AMA in a concentrated public information program designed to inform the citizenry that H.R. 3727 offers "better care than Medicare" at less cost to the taxpayers.

The AMA will employ national magazine advertising, and television and radio spot announcements—at a cost of \$550,000—to bring this message to the people during the month of February.

Kenyon plans a diversified program in the state of Oklahoma, as follows:

- Personal contact with Oklahoma's Congressional Delegation both at home and in Washington, D.C.
- A "County Officers' Conference" on February 21st—featuring AMA President Donovan Ward, M.D.—to distribute materials and outline a massive grassroots campaign.
- A statewide television debate, placing himself in the arena with a proponent of Medicare.
- Concentrated efforts in two or three key Congressional districts, featuring radio and television spot announcements, newspaper advertising, distribution of handbills, direct mail promotion to senior citizens, "Town Hall Meetings," and door-to-door solicitation of letters to Congressmen.
- An intensive statewide publicity campaign designed to gain editorial

support from the state's daily and weekly newspapers.

"The OSMA staff will work closely with an advertising agency in planning the campaign and producing the necessary materials," Kenyon said, "and we will rely heavily on Oklahoma doctors and their wives for the manpower necessary to our success.

"We must overcome any defeatism which may exist—and fight for good health care legislation. If we can get the people to understand the issues, we can win—because our position is right!" □

Johnson Presents Huge Health Program

President Johnson has asked Congress to approve a far-reaching program of diagnosis, treatment and stepped-up research on heart disease, cancer, stroke, and "other major diseases."

In a health message to Congress, the president also urged speedy passage of a social security health plan for aged persons.

The outline of his wide-ranging program was the president's first message on legislation sent to the new Congress. He sent it to Capitol Hill on the fifth day of the new session.

Johnson requested in addition to "Medicare":

—An increase in federal funds for maternal and child health and crippled children's services and broadening of public assistance programs so federal money could be used to pay medical and dental costs for children of needy families.

—Approval of a five-year program of grants to help start community mental health centers to offer comprehensive services.

—A step-up in the program to rehabilitate disabled persons so 145,000 could be restored to useful work each year.

—Establishment under a five-year program of multi-purpose regional medical complexes for diagnosis and treatment of heart disease, cancer, stroke and other major diseases. This proposal envisions a network of 32 centers coordinating efforts of med-

ical schools, hospitals and community facilities costing an estimated \$1.2 billion.

—Federal funds to improve services for the mentally retarded, increase hospital modernization and start a new program of loans and guarantees for loans to help voluntary associations build group medical practice centers.

—New legislation to help medical and dental schools cover basic operating costs with federal funds.

—Federal scholarships for medical and dental students.

—Extension for five years after mid-1966 of federal health research programs with a greater emphasis on specialized research of a national or regional nature.

—Laws to bring the production and distribution of so-called "goof-ball" pills—barbiturates, amphetamines and other psychotoxic drugs—under tighter control and legislation to require adequate labeling of hazardous substances and safety regulation of cosmetics and therapeutic devices by the Food and Drug Administration.

Prior to the health message, Sen. Clinton P. Anderson (D., N.M.) and Rep. Cecil R. King (D., Calif.) already had introduced medicare legislation to carry out the President's program. It was S-1 in the Senate and HR-1 in the House. It was a modified version of the King-Anderson bill which died in a joint House-Senate conference committee last year after the Senate had voted 49-44 to add it to a House measure increasing social security cash benefits.

The new King-Anderson bill calls for bringing self-employed physicians under social security coverage. It also would increase social security cash benefits by seven per cent. In a benefit period, all persons 65 years or older would be eligible under the health care plan for 60 days of hospitalization with the patient paying for the first day and 60 days of post-hospital care in a nursing home. Generally, 90 days would have to intervene between benefit periods. Aged persons also would be eligible for up to 240 days a year of home health services, such as a visiting

nurse, and certain outpatient diagnostic services with the patient paying a monthly deductible. Nursing home benefits would start January 1, 1967, and the other benefits July 1, 1966.

Social security taxes would be increased by .3 per cent next year, .38 per cent in 1967-68 and .45 per cent in 1969 and following years on employees and employers for a separate fund to finance the program. The tax base also would be increased to \$5600.

The program would be administered through social security by the secretary of Health, Education and Welfare. Hospitals could elect to be represented by a private organization, such as Blue Cross, to negotiate their contracts. The secretary would also delegate to such organization the functions of receiving payments from the social security program. Payments would be made to hospitals and other providers of services on a cost basis. The cost of hospital services would be based on semi-private accommodations (2, 3, or 4-bed rooms).

The bill also would authorize creation of an association of private insurance carriers to sell, on a non-profit basis, approved policies covering health costs not covered under the social security plan. Participating carriers would be exempt from anti-trust laws.

Administration officials said Johnson's health proposals, other than medicare, would cost \$262 million in the year starting next July and more than \$800 million in the following 12 months.

Officials said the entire package, including the five-year program to establish regional medical centers to combat heart disease, cancer and stroke, would cost several billion dollars spread over this decade.

The plan for helping with the medical bills of needy children would be similar to the existing Kerr-Mills program for helping needy aged persons pay medical expenses. Aides said \$100 million would be earmarked for the first year of the new program and \$250 million in the following year. □

Oklahomans in For Another Lengthy State Legislative Session

The Oklahoma State Medical Association, functioning through its State Legislative Committee, is actively working to keep pace with legislation being considered by the 30th Oklahoma Legislature.

In less than four weeks and only 15 actual legislative days (as of February 1st), newly reapportioned lawmakers have introduced a total of 344 bills; 134 in the Senate and 210 in the House. Of these, the OSMA's State Legislative Committee is casting a watchful eye on approximately 35 proposals.

As was evident in the last legislative session, the bulk of legislators this year agree that their most difficult task is to satisfy increased appropriation requests being made by education, the highway department, mental health and so on down the line of state agencies.

Legislators also agree that due to this problem of attempting to find new revenues to meet growing state agency demands, it's likely to be a long and stormy 30th Session.

Political observers predict that Oklahomans will have the privilege of deciding which route, if either, will be taken to bring about more revenue to finance growing requests—either by voting in Governor Bellmon's "Operation Giant Stride," or, levying an additional one per cent sales tax increase. Both measures are rumored to be placed on the same ballot, probably in April of this year.

OSMA Actively Involved

The OSMA State Legislative Committee has been actively involved since early December gathering reference or resource information in order to better cope with proposals of concern to medicine.

Since the session opened on January 5th, the committee has reviewed the following legislative measures and has taken corresponding action as indicated:

Senate Bills

SB 2—Rhoades—Purchase of ambulances by mental hospitals. OSMA: No action.

SB 12—Williams—Eliminating exclusion of chronic alcoholism from definition of mentally ill person. OSMA: Approved.

SB 15—Murphy—Requiring passenger motor vehicles beginning with 1966 models be equipped with safety belts or harness. OSMA: Approved.

SB 18 — Garrison — Mandatory reporting by medical personnel and institutions of physical abuse to children. OSMA: Legislative Committee favors HB 579 (discretionary).

SB 19 — Romang — Chemical tests for drivers of motor vehicles who are believed under influence of intoxicating liquor. OSMA: Action pending.

SB 21 — Murphy—Providing judge of county court may perform duties of medical examiner. OSMA: Action pending while awaiting rewriting of bill.

SB 22 — Murphy — Authorizing disavowal of agreement concerning release in any personal injury case within year. OSMA: Under consideration.

SB 72—Payne—Relating to estopped of employer to deny employment of employee in hazardous employment; adding own risk carriers and self insurers. OSMA: No action.

SB 86—Graves — Appropriating to State Board of Health, \$100,000 for biennium for detection of phenylketonuria and other inborn metabolic disorders. OSMA: Under consideration.

SB 87 — Graves — Directing State Board of Health to provide educational program on detection of phenylketonuria and other inborn met-

abolic disorders of newborn infants and, in the public interest, physicians administer tests routinely for detection of same. OSMA: Committee supports principle, but recommends that parents be held at least equally responsible for welfare of their children.

SB 101—Garrison—Authorizing State Board of Pharmacy to remove specific compounds, mixtures or preparations from category of excepted items. OSMA: Under consideration.

SB 110 — Garrison — Exempting drugs, medicines, agricultural fertilizers and seeds from consumers sales tax. OSMA: No action.

SB 115—Graves—Making provisions on operator's certificates, sewage and waterworks, applicable in all cities and towns. OSMA: Committee concurred.

SB 120—Martin—Defining air pollution and air contaminants; vesting authority for enforcement in Department of Public Health. OSMA: Approved.

SB 121 — Gee — Providing penalty for child molestation; making act applicable to males over 16 years of age and females over 18 years. OSMA: Under consideration.

SB 134 — Grantham — Authorizing voluntary admission to state and private mental hospitals of persons 16 to 21 years of age upon consent of parent or guardian. OSMA: Under consideration.

House Bills

HB 502—Page—Authorizing precare and aftercare services in mental health department. OSMA: Approved.

HB 503—Morrow—Authorizing payment to patients within mental health institutions. OSMA: No action.

HB 509 — McCune — Providing for care and treatment of sexually dangerous persons. OSMA: Action pending.

HB 516 — Sandlin — Changing composition of members of the State Hospital Planning Advisory Council.

OSMA: Action pending while under constant study.

HB 540—Blankenship — Exempting from sales tax certain medicines and agricultural products. (Similar to SB 110). OSMA: No action.

HB 574—Privett — Amending Good Samaritan Act, limiting liability for negligence of nurses, as well as others, for emergency care at scene of accident. OSMA: Approved.

HB 579 — Spearman and Drake— Authorizing physicians, and other professional persons to report physical abuse or injuries to children under 17 years of age to department of public welfare or police; directing a follow up investigation by police; granting persons reporting in good faith immunity from civil or criminal liability and, waiving privilege of doctor-patient relationship against disclosure of facts concerning condition of child. (Similar to SB 18). OSMA: Legislative Committee initiated this bill as being in the public interest and allowing discretionary reporting, instead of mandatory.

HB 625—Finch—Allowing payments of \$50 per week for temporary and total disability. OSMA: No action.

HB 650—Finch—Providing for regulation of non-profit medical and dental indemnity, or hospital insurance. OSMA: Under consideration and study.

HB 663—Willis—Biennial appropriation of \$50,000 annually to State Department of Health for administering the functions of the Board of Unexplained Deaths. OSMA: Legislative Committee encourages an appropriation of approximately \$98,000 per year to properly execute functions of Medical Examiner's system.

HB 667—Mountford—Providing for labeling of accident and health insurance policies; listing any exclusions found in the policy on the face of the policy. OSMA: Under consideration.

HB 677 — Roselle — Including garbage, sanitation, fire departments as hazardous employment. OSMA: Under consideration. □

HB 682—Abbott—Appropriating to State Department of Health \$50,000 per year for the establishment of regional guidance centers. OSMA: Under consideration.

HB 685—Finch—Permitting injured workers to select their own doctor under certain circumstances in Workmen's Compensation cases. OSMA: Under consideration.

HB 690—Smith—Providing for protection of parent-child relationship; providing for termination of parental rights; permitting a court to act to protect health and welfare of child and, preventing adoption of child until decree terminating parental rights has become final. OSMA: Under consideration.

HB 692—Drake (House) and Stansberry (Senate) — Increasing fee charged applicants for examination and re-examination in basic sciences; increasing fee charged by State Board of Medical Examiners and Board of Examiners in Basic Sciences for certificate of reciprocity. OSMA: Under consideration.

HB 693—Drake (House) and Stansberry (Senate)—Providing for certain qualifications of applicants for admission to examination for licensure to practice medicine and surgery in Oklahoma; providing for qualification of schools of graduation of applicants and requiring internship training. OSMA: Under consideration.

HB 694—Drake (House) and Stansberry (Senate)—Providing for staggered terms for members of State Board of Medical Examiners; providing for election of officers thereof; and making the newly created State Board of Medical Examiners successor to present board. OSMA: In May, 1964, the OSMA House of Delegates approved and encouraged initiating legislation to establish membership on staggered terms as embodied in this bill.

HB 702 — Mountford — Amending Workmen's Compensation by including service station employees and salaried firemen in category of hazardous employment. OSMA: Under consideration. □

NOW ENROLLING FOR SUMMER



39TH YEAR

- Coaching, competing, and conditioning in all sports.
- White, Buffalo and Current River canoe trips.
- Swimming, diving, water skiing, Scuba diving.
- Riflery, archery and fishing.

—●—

IN THE HEART OF THE
OZARKS
ON LAKE TANEYCOMO
BRANSON, MISSOURI

—●—



7TH YEAR

- Instruction and play in land sports.
- River and lake canoe trips.
- Art, dance, and crafts.
- Swimming and water skiing.
- Riflery and archery.
- Drama, Poise and Charm.

—●—

TWO FIVE WEEK TERMS
Ages: 8 thru 16

—●—

Write for catalog, movie dates, and list of Oklahoma Patrons:

Winter Address
C. G. "SPIKE" WHITE
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College Station, Texas

Four Speakers Named For Annual Meeting

Four nationally known medical personalities have accepted invitations to appear as visiting distinguished guest speakers at the 59th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 14th-16th, 1965.

They are:

Laurence L. Robbins, M.D., Clinical Professor of Radiology, Harvard Medical School, Boston, Massachusetts.

Allen R. Hennes, M.D., Professor of Medicine, Wayne University School of Medicine, Detroit, Michigan.

F. E. Greifenstein, M.D., Chairman of the Department of Anesthesiology, University of Arkansas School of Medicine, Little Rock, Arkansas.

Alexander H. Woods, M.D., Professor of Medicine, University of Arizona School of Medicine, Tucson, Arizona.

A minimum of four other guest speakers will be announced later, Doctor Howard A. Bennett, General Chairman, said last month.

The scientific program for the 1965 meeting, to be held for the first time in Tulsa's beautiful new Assembly Center, will be built around half-day seminars in radiology, medicine, surgery and respiratory diseases. Details of a typical session scheduled for Friday afternoon, May 14th, call for discussions of viruses and cancer, new concepts in diabetes and atherosclerosis, autoimmune diseases and modern medical genetics. This session is to be moderated by Doctor Woods.

The surgical seminar on Saturday morning, May 15th, will stress recent advances in cancer chemotherapy. On Saturday afternoon, the emphasis will be upon medical, surgical, and anesthesiological aspects of pulmonary diseases.

The opening session on Friday morning, May 14th, will present re-



LAWRENCE L. ROBBINS, M.D.

cent advances in radiology which have a practical application for the medical profession at large.

Other features of the meeting will include a Medical-Legal Conference on Sunday morning, May 16th, and the Second Annual Peter E. Russo Memorial Medicine & Religion Conference on Saturday afternoon, May 15th.

Doctor Donovan F. Ward, President of the American Medical Association, has accepted an invitation to address the opening session of the OSMA House of Delegates on Friday morning, May 14th. Reference committees will meet the same afternoon, and the House will conclude its business and elect officers on Saturday morning, May 15th. The OSMA Board of Trustees will meet on Thursday, May 13th, at 1:30 p.m. at The Mayo.

The President's Inaugural Dinner Dance, featuring entertainment and the installation of Doctor Rex E. Kenyon of Oklahoma City as OSMA President, will be held on Saturday evening, May 15th, at The Mayo. Dinner dance tickets are \$7.50 per person and may be ordered in advance by writing: Convention Headquarters, Oklahoma State Medical

Association, 104 Utica Square Medical Center, Tulsa.

An appeal for scientific exhibits from physicians and medical and health organizations was made last month by Doctor Thomas W. Taylor, Exhibits Chairman. The scientific exhibits will be interspersed with technical exhibits in the Assembly Hall immediately adjacent to the general meeting room. Complete information and applications for space are available from the OSMA convention headquarters in Tulsa. There is no charge for scientific exhibit space, and interested physicians are urged to apply at once. Space in the commercial exhibit is still available. Thirty-two exhibitors have signed for booths to date. □

Clinical Research Center Opened

A recently opened Clinical Research Center, supported by a grant from the National Institutes of Health, is located in a newly remodeled area in Children's Memorial Hospital in Oklahoma City. Harris D. Riley, Jr., M.D., Professor of Pediatrics, is the principal investigator of the grant.

The center consists of facilities for ten patients, including examining and study rooms, recreation and conference area, core laboratories and administrative offices. The center will have its own research diet kitchen.

J. Rodman Seely, M.D., Ph.D., is the program director and J. Darrel Smith, M.D., the assistant program director of the new center. A scientific advisory committee composed of representatives from several departments evaluates all research project applications, and only volunteer study patients of an approved project are eligible for admission. There are no charges to the patient for hospitalization or professional service.

The Clinical Research Center is conceived for multicategorical and multidisciplinary functions, and at the time of opening, 13 projects by 18 investigators from six departments and 13 subspecialties had been approved. □

DOCTOR, WHAT WILL YOU EARN?

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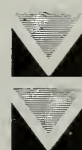
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Regional Postgraduate Courses Continue

The 1965 Regional Postgraduate Educational Courses, sponsored by the Oklahoma State Medical Association and the University of Oklahoma Medical Center's Department of Postgraduate Education, were officially launched with the January 12th educational review in Ada, followed by the successful course conducted at Clinton-Sherman Air Force Base January 26th.

This year marks the fifth consecutive year for OSMA sponsorship of the series of eight Regional Postgraduate Education Courses — held throughout the state during the months of January through April.

At the rate of two per month, the courses are held at decentralized meeting sites across the state and, in an effort to conserve the physicians' time, they are scheduled in the late afternoon and evening. The meetings begin at 4:30 p.m., with two hours of lecture, followed by dinner and another two hour period of lecture and discussion. Faculty members from the University of Oklahoma Medical Center make the scientific presentations.

Each program is approved for four hours credit (Category I) by the American Academy of General Practice. A registration fee of \$7.50 covers the complete scientific program as well as the dinner.

According to the newly appointed Chairman of the OSMA's Council on Professional Education, S. N. Stone, Jr., M.D. of Oklahoma City, "any member of the Oklahoma State Medical Association may attend any of the offered courses and, preregistration may be made at the OSMA Executive Office for any of the remaining courses by mailing a check for \$7.50 and indicating the location where the preferred course is being held."

Next Course: Lawton

With six courses remaining to be held, the next course will be on the subject of "The Ovaries" and, it will be held February 16th in the Hotel Lawtonian at Lawton, Oklahoma.

The other five courses will be held

on the following dates, with corresponding subjects offered and at the location indicated:

February 23rd — "The Thyroid." Country Club, Ponca City.

*March 23rd — "Small Intestine." Lake Murray Lodge, Ardmore.

March 30th — "The Blood," Western Sands Motel, Woodward.

*April 20th — "The Ovaries," Oakwood Country Club, Enid.

April 27th — "Small Intestine," Tradewinds Motel, Muskogee.

*The subjects originally scheduled for the March 23rd and April 20th courses have been changed, as indicated above. □

OSMA Veep Joins AAGP Staff

Doctor Ralston R. Hannas, Jr., Vice-President of the Oklahoma State Medical Association has been named to the headquarters staff of the American Academy of General Practice, Mac F. Cahal, M.D., executive director, announced recently.

Doctor Hannas, the announcement stated, will serve as secretary of the Academy's Commission on Hospitals, replacing in this capacity Charles E. Nyberg, who will continue as director of the division of socio-economics. Later, the announcement said, Doctor Hannas will assume additional staff duties. The Academy, spokesman for America's family doctors, is the nation's second largest medical association. Its national headquarters employing 80 persons in various administrative and technical capacities, are at Volker Boulevard and Brookside, Kansas City.

The new staff executive comes to the Academy from Sentinel, Oklahoma, where he was in general practice 12½ years as a partner in a small hospital and clinic. He also served as an assistant clinical professor of medicine at the University of Oklahoma medical school and was active in organized medicine in Oklahoma. In addition to serving as OSMA vice-president, he was on the state medical association's board of trustees for ten years, chairman of the association's council on medical education since its founding six years ago, and has been a member of the board of contributing editors of the



R. R. HANNAS, JR., M.D.

Oklahoma State Medical Journal. In addition, he has served as a director of the Oklahoma Blue Cross and of the state's Heart Association, and has been for four years an honorary consultant in general practice to the Second Air Force at Clinton-Sherman AFB, Oklahoma.

Doctor Hannas, 46, was born at New Brunswick, New Jersey, where his father was on the faculty at Rutgers University, and was reared in the Chicago suburb of Western Springs, Illinois. He attended high school in La Grange, Illinois, and later went to Purdue University, where he was graduated in general science in 1939. Shortly after graduation, he was commissioned in the Marine Corps and spent the next seven years in service, the last two at Marine Corps headquarters in Washington. He resigned in 1946 as a lieutenant-colonel to enter Harvard medical school.

Doctor Hannas was graduated from Harvard medical school in 1950 and was recipient of the Maimonides award that year. He then spent a year of internship and a year's surgical residency at the University of Kansas Medical Center, Kansas City, Kansas, before entering practice at Sentinel.

Married to the former Lucy Jane Demoret of Lafayette, Indiana, Doctor Hannas has five children. The family lives at 3917 West 84th Street, Prairie Village, Kansas. □

Private Enterprise . . .

(Continued from Page 42)

so involved in the rendering of the services that we are hard pressed to see that they can be enjoyed and had by the many. We are met with a great clamor to let others do the job of distributing our services. Our primary difference is that we provide a service and not a product. This service cannot be rendered by anyone but ourselves. It can neither be dictated nor delivered, nor diluted, except as we feel is best for the patient.

What, then, is the answer? Again we must form a company where the wishes of the individual must become secondary to the good of the many. This is to be forthcoming, whether we choose to do it or not. This company must have the wisdom and the foresight to police the actions of the individuals. It must have the strength to enforce the rules for the many. It must have the most excellent guidelines so that justice will prevail.

This means that we must police ourselves. We must have the power to enforce our rules and regulations. We must have schedules of fees and services beyond which one must not trespass. These things we must do for ourselves, not only for our salvation, but to insure that our works will not be degraded by the unwise dictations of those who know nothing about our services.

If our services are to be distributed by others, as it seems they will be, we must make sure that certain basic principles are met by these would-be purveyors. Among these principles must be first the assurance that the physician will be the director of the care of the patient at all times. Such a system must be voluntarily arrived at and voluntarily supported. It must have provisions whereby we, the physicians, may meet and negotiate our terms, and have redress for wrongs.

I submit to you that we have the machinery to do these things and maintain our basic principles. Such

power lies with us in our medical organizations, and in the voluntary health insurance plans. They need implementation by us, not by outside coercive elements. Only in that way can free enterprise be maintained in the practice of medicine!

The choice has been ours for all time in the past. We have failed miserably to meet the challenge. Shall we do it voluntarily, or shall we find ourselves enslaved by the many outside regulations that shall be forthcoming?

The choice is ours. We have never needed free enterprise more in our entire history. We must now find ways and means to make our system work better, and protect ourselves from a dictatorial government.—*Joe L. Duer, M.D.* □

Pontotoc County Symposium Set For March 10th

Physicians of the Pontotoc County Medical Society have announced sponsorship of their "Second Annual Symposium on Selected Medical Subjects," to be held on March 10th in the Student Union Ballroom, East Central State College, Ada.

The one-day scientific program is followed by a social hour and dinner at Oak Hills Country Club. No registration fee is charged, and the social hour and dinner are provided for guests and wives by the county medical society.

Special activities are planned for physicians' wives while the scientific program is in progress.

Program

8:00 a.m.—Registration and Coffee

9:00 a.m.—Welcome and Announcements—David C. Ramsay, M.D., President, Pontotoc County Medical Society.

Moderator for Morning Session—
John B. Morey, M.D.

Each topic will be presented in two sections, with an intervening coffee break.

9:15 a.m.—OBESITY—Harry V. Demissianos, M.D., Chief of Pharmacology, Upjohn Company, Kalamazoo, Michigan

Coffee Break

10:35 a.m.—CORTICOSTEROIDS—
Their application in medicine—
Richard T. Smith, M.D., Director of Rheumatology, Benjamin Franklin Clinic, Philadelphia, Member of Staff of Merck, Sharp, & Dohme

Luncheon

Moderator for Afternoon Session—
Frank J. Martin, M.D.

1:15 p.m.—Neurological Aspects of Cerebral Vascular Accidents, Frank T. Padberg, M.D., Neurosurgeon, Professor of Neurosurgery, Arkansas School of Medicine, Consultant, V.A. Hospital, Little Rock, Arkansas

2:35 p.m.—RECENT ADVANCES IN VASCULAR SURGERY, H. Edward Garrett, M.D., Baylor University, Houston, Member, Michael DeBaakey Team

4:00 p.m.—RECENT ADVANCES IN PATHOLOGY, CLINICAL AND ANATOMICAL, Vennia A. Stenbridge, M.D., Professor of Pathology, Southwestern Medical School, Dallas

5:20 p.m.—PATHOLOGICAL CONFERENCE, Moderator, Vennia A. Stenbridge, M.D.

7:00 p.m.—SOCIAL HOUR, Oak Hills Country Club

8:00 p.m.—DINNER, Oak Hills Country Club, Compliments of the Pontotoc County Medical Society □

Physicians Warned Regarding Export Of Narcotics

Can physicians legally furnish narcotic drugs to foreign missionary agencies, or take such drugs with them for emergency purposes while visiting foreign countries, or mail narcotic prescriptions to overseas servicemen?

In the absence of a special permit, the answer is no on all counts, according to Ted Hagstrom, Chief of the Regulated Drug Enforcement Division of the State Bureau of Investigation.

Mr. Hagstrom reports that these questions have arisen from actual occurrences involving state physi-

cians, and have been thoroughly researched by the District Supervisor, Federal Bureau of Narcotics, Kansas City, Missouri, and by the Deputy Commissioner of Narcotics, Washington, D.C.

Federal regulations governing the exportation of narcotics read, in part:

"No person shall in any manner export or take out of the United States, or cause to be exported or

taken out of the United States any narcotic drug, nor shall any carrier receive for exportation or export, or carry out of the United States any narcotic drug, unless and until a permit, in due form, to export the narcotic drug in each instance shall have been issued by the Commissioner."

Mr. Hagstrom advises physicians who feel the necessity for transporting or exporting narcotic drugs to

foreign countries to first seek proper authorization from the Commissioner of Narcotics, Washington, D.C.

Domestic postal laws permit manufacturers or wholesalers to mail narcotics to persons legally qualified to dispense them. Exempt narcotic preparations may be mailed to consumers within the United States provided they are securely packed and bear the sender's name and address. □

DEATHS

SAM A. McKEEL, M.D.
1870-1965

Past-president of the Oklahoma State Medical Association, 94-year-old Sam A. McKeel, M.D., of Ada, died January 27th, 1965.

Born August 17th, 1870 in Linden, Tennessee, Doctor McKeel graduated from Memphis Hospital Medical College in 1901. His first practice was established in Akins, Cherokee Nation, Indian Territory. After two years, he moved to Hanson and then to Sallisaw the year of statehood. In 1921, he began his practice in Ada.

Doctor McKeel was most interested and active in the organization of medicine in Oklahoma. He helped organize the first Sequoyah Medical Society and served as the first president of the group. After moving to Ada, he served as president of the Pontotoc County Medical Society. He was a Councilor from the 7th district to the Oklahoma State Medical Association. In 1937, he was installed as president of the OSMA. In addition to his private practice and other medical activities, he served on the Board of Medical Examiners for eight years.

Dual honors were extended to Doctor McKeel by the OSMA in appreciation for his years of interest and distinguished service to the profession. In 1948, he was awarded a Fifty-Year Pin and in 1949, he was given an Honorary-Life Membership. □

A. G. WEBER, M.D.
1887-1964

A pioneer Goltry, Oklahoma physician, A. G. Weber, M.D., died in Goltry December 9th, 1964.

Born in Lehigh, Kansas, the general practitioner graduated from Northwestern University School of Medicine in 1921. He was the first intern at the University Hospital in Oklahoma City.

His practice was established in Goltry where he practiced for more than 40 years.

CLIFFORD W. ALLEN, JR., M.D.
1919-1965

Tulsa neurosurgeon, Clifford W. Allen, Jr., M.D., died in Tulsa January 10th, 1965.

Born in Tulsa in 1919, Doctor Allen graduated from the University of Oklahoma School of Medicine in 1944. Following several years of residency and service with the Navy during World War II and the Korean War, he established his practice in Tulsa in 1950.

J. G. GHORMLEY, M.D.
1901-1965

Blackwell physician and surgeon, J. G. Ghormley, M.D., died in Blackwell, January 10th, 1965. He was the father of L. W. Ghormley, M.D., also of Blackwell.

Born May 29th, 1901 in Kansas City, Missouri, Doctor Ghormley graduated from the University of Oklahoma School of Medicine in 1934.

In 1937, he established his practice in Blackwell where he remained until his retirement in 1963.

His activities included serving as president of the Kay-Noble County Medical Society. He was a member of the Southern Medical Association and the Phi Chi medical fraternity.

WILLIAM H. SHIPMAN, M.D.
1872-1965

A 92-year-old Bartlesville physician, William H. Shipman, M.D., died January 11th, 1965. A native of Beech Creek, Arkansas, he graduated from the University of Louisville School of Medicine in 1904.

After practicing in Montrose, Arkansas, Doctor Shipman moved to Bartlesville in 1917 where he continued his practice until his retirement in 1947. He was active in community affairs and had served as county health officer.

Recognizing his years of devotion to the medical profession, the Oklahoma State Medical Association presented Doctor Shipman with an Honorary-Life Membership in 1947.

CHESLEY A. MORGAN, M.D.
1899-1965

Chesley A. Morgan, M.D., an Oklahoma City physician, died in Oklahoma City January 6th, 1965.

The 65-year-old physician graduated from the University of Oklahoma School of Medicine in 1929. The general practitioner established his practice in Oklahoma City about 40 years ago.

Miscellaneous Advertisements

OPENING for board qualified or certified internist. Group is located in new 11,000 sq. ft. clinic building adjacent to new community hospital. Contact James W. Loy, Administrator, The Chickasha Clinic, Chickasha, Oklahoma.

WILL BE VACANT about April 1st, Mauldin-Hill-Yates Clinic, 1301 SW 29th, Oklahoma City. Ideal for individuals or partnership. Much of neighborhood clientele pays cash for office calls. Well located, well established, (14 years). Not far from both hospitals, (1 new). 5,000 sq. ft., 25 rooms for examining and offices. Plenty of room for filing, laundry, conferences, supplies, etc. Central heat, air-conditioned, 3 good parking lots. Next door to a good drug store. Should be room for 3 or 4 M.D.s. Have had inquiries from individual doctors, if interested, maybe something can be worked out. Rent unbelievably low. Contact Ralph Wootan, ME 4-3317, or CE 6-8874.

INTERNIST seeking practice opportunity in July. 1961 O.U. graduate, now completing two-year residency in general internal medicine at University of West Virginia; Age 29; desires partnership opportunity or clinic practice. Contact Key W., The Journal, Oklahoma State Medical Association, P. O. Box 18696, Oklahoma City.

FOR RENT air conditioned, ground floor office, long-term lease available. Off-street parking, 1104 North Lee Street, Oklahoma City. Mrs. Neil W. Woodward, 4301 Lincoln Boulevard, Oklahoma City, JA 5-7028.

UROLOGIST desires association with partner or group. Colorado graduate with two years' general surgery residency, plus now completing four years' Army service in urology. Board certified. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

UNLIMITED opportunity for one or two young general practitioners in a suburban area of 40,000 with no M.D. All of the advantages of a small town practice in a large city. Available July, 1965. Contact Key D, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE: Beck-Lee Cardi-All EKG and Keleket X-ray machine, 100 MA, 100 KV. These machines are older models but in very good working order and ideal for office work. If interested contact Curry Clinic-Hospital, Sapulpa, Oklahoma, P.O. Box 581, Phone BA 4-3081.

FOR SALE: Laboratory and x-ray equipment, excellent condition. Will sacrifice to sell in 60 days. G.E. 100 MA X-ray. Medcolator ultra-sound GE EKG. Leitz Photrometer. Castle autoclave. Centrifuge. Six unit cell counter. Pipette shaker, many other items. Claude M. Hirst, M.D., Shawnee. Call BR 3-3030 or BR 3-3251.

MODERN clinic for lease. Also for sale 100 mil GE X-ray, autoclave, centrifuges, thermofax. Contact Mrs. Robert O. Ryan, 1017 Jenkins, Norman, Oklahoma..

WANTED: General practitioner to join on associate basis. City of 8,000 including state college enrollment. Progressive city with new 30-bed hospital. Contact Key F, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

BOARD eligible anesthesiologist wants practice opportunity in Oklahoma. Available July 1st. Contact Key C., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

BEGINNING residency training in July. Wish to sell partnership in clinic and hospital. No down payment. Southwestern Oklahoma town, recreational area. Contact Key H., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

TINKER AFB, Oklahoma, has a vacancy for one medical officer, GS-13, \$14,595 per annum. This position is in the Occupational Health and Medical field and is strictly day shift, 40 hours per week, with no night calls. Doctors may continue private practice during off-duty hours as long as it does not interfere with their attendance and performance of duties at the base. They may not accept or continue employment resulting in payment from the City, County, State or other Federal Agencies due to dual compensation laws. Interested general practice, as well as Occupational Health physicians, should contact Tinker AFB, telephone PE 2-7321, Ext. 2691, for qualification requirements and other detailed information concerning this position.

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The Readership Survey Was A Success

EXPERTS IN the field of professional journalism told us that a two per cent return on the January *Journal* readership survey would be average, five per cent would be good and ten per cent would be excellent. Thus far, just a month after the January issue came out, more than eleven per cent of the questionnaires have been returned and they are still coming in. The *Journal* readership survey was better than excellent!

This survey showed, among other things, that the *Journal* is well read and it proved also that Oklahoma doctors are kinder than they are malicious, more constructive than destructive in their criticism. All the questions were not answered by everyone but of those who replied it is significant that 75 per cent listed what they liked *best* while only 40 per cent said what they liked *least*. Even with the cloak of anonymity the intrinsic kindness of the medical profession was evident.

The three best-liked features were editorials, scientific articles and news, 20 per cent, 17 per cent and 16 per cent respectively. The Heart Page was rated best by four per cent, the Last Word by three per cent, Abstracts and the President's Page received two per cent each and advertisements one per cent.

The remaining 35 per cent of the "best" votes could not be categorized because of their diversity. Some preferred personal news notes or political-economic comments while others liked the professional medical directory or good illustrations. In the opinion of the editorial board, the prize winner was the Gentleman who wrote, "I read them all."

Editorials and ultra-scientific papers tied for the booby prize—each of them drew 14 per cent of the votes for the least-liked features. General scientific articles came next with nine per cent, professional advertising with eight per cent and news with seven per cent. General advertising and news of the Woman's Auxiliary followed, each receiving four per cent of the thumbs-down vote. The President's Page and the Heart Page tied with three per cent each. Lengthy articles,

the Last Word and papers on basic research sustained two per cent of the brickbats respectively. Political comments, case reports and the use of generic terms instead of trade names for drugs drew a few disapproving votes.

Analysis of the replies according to the type of practice is interesting: 35 per cent General Practice, 12 per cent General Surgery, nine per cent Internal Medicine, seven per cent for Obstetrics-Gynecology, four per cent each for Pediatrics, Anesthesia and Radiology, three per cent each for Urology, Psychiatry and Orthopedics, and two per cent for Dermatology, Otorhinolaryngology and Pathology. There were traces of other specialties such as Endocrinology, Allergy, Industrial Medicine and Physical Medicine. Four per cent of the respondents did not indicate their type of practice.

The question, "What is missing that you would like added?" drew almost as many answers as there were replies. More OSMA news and personal news notes were suggested. Others asked for a regular section devoted to clinical-pathological conferences and a few requested more scientific papers. Some wanted more abstracts, human interest stories (including pictures), cartoons, review articles, colored illustrations, medical-religious articles or the addition of a section on office management. A regular, monthly Dean's Message, summaries of Medical Center programs, Letters To The Editor, a Question and Answer section, and more detailed information of State Legislative proceedings were mentioned by several men.

Some of these suggestions for improving the *Journal* will be incorporated in future issues as facilities permit. Among these additions, we hope, there will be more news of the OSMA and legislative proceedings as well as a greater number of abstracts. Likewise, we have good prospects for a monthly Dean's Message, a Book Review section and a greater number of general review articles. Some other worthwhile suggestions must remain in the realm of ambitions for a time,

editorial

things such as colored illustrations (they're too expensive), Letters To The Editor (it seems that no one has time to write any more) and more scientific material (we will consider anything that is submitted).

From these data we conclude that the content of the *Journal* is generally acceptable to most physicians. It is obvious too that there is room for considerable improvement and this survey emphasizes those areas where an overhaul or new parts would be most helpful. With these replies the editorial board has something tangible for use as a guide in planning future issues but, like other subscribers to the *Journal*, we have to practice medicine for a livelihood and we need all the help we can get.

The high quality of *Journal* readership will not be overlooked by present or prospective advertisers and it should not be forgotten by medical authors when they consider the most effective place to publish a worthwhile paper.

Thanks again, Gentlemen, Doctors. Readers and Respondents to this readership survey.—C. B. Dawson, M.D. □

Letter to the Editor

January 29, 1965

Editor

Journal of The Oklahoma State Medical Association

601 Northwest Expressway

P. O. Box 18696 Shartel Station

Oklahoma City, Oklahoma

Dear Sir:

It was with a great deal of interest that I read the special report on Blue Shield in the November issue of *The Journal*. A great deal of background information was presented. Conspicuous by its absence was any reference to the origin of the inclusion of medical illnesses under Blue Shield. No mention was made when this was added to the Blue Shield benefits. No mention was made of what these benefits are and how they compare to other insurance plans which can be obtained, or to actual charges which are made for non-surgical care. Rather, every specific reference was in relation to surgical benefits and occasionally a mention of obstetrical benefits.

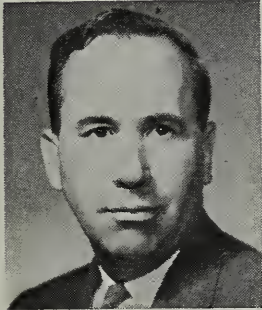
It would be interesting if information had been provided which showed the original Blue Shield benefits for medical illness and what changes and improvements have been made in these since they were first included. I was not practicing medicine in Oklahoma at the time medical benefits were included. It is my understanding that this was subsequent to 1950.

Eight years ago the Blue Shield benefits for medical care were the same as today under the 300 Plan. The only addition has been the 400 Plan. The dread disease plan was added, but obviously is of very minimal practical importance other than for malignancy. It is not a major-medical benefit as is available with other insurance coverage.

The statement was made in this report that the schedule of benefits approved in 1962 approximated 85 per cent of the average fee. Considering that I am not involved in surgical fees, I cannot dispute this on an overall basis. I would, however, state that for medical illness this is a grossly exaggerated percentage of the total charge that is paid by Blue Shield.

If we assume the average stay for a medical illness would be ten days, that this was an acute illness, and that a complete examination was required at the time of admission, we would find that, although, the patient was seen by the physician on ten consecutive days, that this was only nine days with Blue Cross. Since Blue Shield does not pay for the first three days nor the day of discharge and the days correspond to the Blue Cross payment, it becomes apparent that only six of the actual ten days were covered by Blue Shield. Under the 300 Plan this would be a payment of \$30.00, under the 400 Plan a payment of \$42.00. The absolute minimum fee that would usually be charged for this period of care would be \$75.00. The usual charge would probably be between \$100.00 and \$125.00. If, for the sake of argument, we assume that the minimum fee was charged, the Blue Shield payment would be 40 per cent with the 300 Plan and 56 per cent with the 400 Plan. If the charge was \$100.00, the percentage would be 30 per cent with the 300 Plan and 42 per cent with the 400 Plan. As an actual case in point, the Blue Shield payment for a man hospitalized twenty days with an

(Continued on Page 107)



It appears that the time has finally come for the members of the medical profession to take stock in themselves, explore their consciences, evaluate their dedication and weigh their loyalties to determine if they wish to continue the practice

of medicine as free agents or if they wish to become employees or others that can and will dictate the type, method, and place of practice.

On Sunday, February 28, 1965 a dedicated group of delegates from all parts of the state took time off to journey to Oklahoma City for a special called meeting to try to do something in behalf of all practicing physicians.

They were given the facts as they were known, and after much discussion pro and con, they decided that we must continue an "all out" effort to salvage what we can in our battle to remain free. They saw it advisable to assess the members of OSMA \$15.00 each to carry out the financing of an excellent program formulated by Doctor Rex Kenyon and Don Blair.

By the time that you read this, the program will have been completed. We may have even been defeated or may have won in the struggle at hand, but we can be assured that the constant battle will continue this year, the next and the next.

You know that our opponents are dedicat-

ed, well-financed and most persistent. We can never afford to be less formidable than before, nor can we rest, give up or relent for a moment.

I am aware that we cannot all see the problems or the solutions in the same light and it is good that we discuss and explore all facets of the picture. We have, for years, had free exchange and long discussion and I feel that our final decisions have been wise and most effective.

Your officers and headquarters staff have been very gratified with the support and response that has been given by the members of OSMA. It is most pleasing to see that so many are willing to give their time and money to do what is possible at this late date. One pleasing thought will be that, no matter what the outcome of all this scramble, we have made an honest, concentrated and thoughtful effort during these last crucial years. We will have the satisfaction of knowing that any unsatisfactory results are not due to our lack of interest or willingness to give of ourselves.

I hope that during the remainder of my year as your president it will not be necessary for me to bombard your thoughts along this line again. I am sure that you have heard it until you tire of it. We are all tired and nothing would please us more than to be left alone to practice medicine and live our lives as contented citizens. May we always live in the hope that this will, some day, be possible.

Harlan Thomas MD

Community Resources For Chronic Diseases

JACK J. ADLER, M.D.

In managing a patient with chronic illness, the physician should be able to use community facilities and resources. The State Information and Referral Service can assist in locating services available in Oklahoma.

IN TREATING patients with chronic disease the family physician must often deal with problems far removed from his interest and training. Moreover, as the prevalence of chronic illness increases he will find more of his practice devoted to such problems. With some information on facilities available for chronic diseases, the physician may be able to deal with them more effectively.

In any illness three factors are important: 1) the disease itself, 2) the disability secondary to the disease, and 3) the disorganization of the individual in his social setting as a result of the disease.¹ With an acute illness, effective care of the basic disease is generally sufficient. Also, medical training focuses its attention on basic disease processes. Thus both education and effective

treatment for the majority of acute illnesses have made the physician proficient in dealing with them.

With a chronic illness however, the physician finds himself facing disability and disorganization in addition to the disease. Often the basic disease which produced the secondary problems is no longer present. Neither training nor experience has prepared him to deal with chronic illness. If he is to come to grips with the patient's illness he must concern himself with all three aspects. The rapidly growing fields of rehabilitation and physical medicine and occupational therapy offer evidence of medicine's increasing concern with disability.

THE MEDICAL SOCIAL WORKER

The medical social worker is increasingly called upon to assist the physician in dealing with the disorganization that comes with a long-term disease. Disorganization falls into three categories.

1. *Personal disorganization*—The response of a particular individual to a particular type of stress. Both factors are important since examples of one disease producing completely opposite responses in different people are well known.

2. *Family disorganization*—Long established relationships within the family are disrupted and sometimes destroyed as a result of chronic illness. Emergency financial arrangements, care of children and attention to other problems affecting family members are necessary.

3. *Disorganization within the community*—Usually an individual illness does not result in significant community problems. However as illness begins to strike a certain segment of the population or changes in disease patterns occur, community problems will arise. With an increasing percentage of our population made up of older individuals the problems of chronic illness have grown immensely. Yet few communities are properly organized to treat and rehabilitate the chronically ill, thus resulting in a loss of physical, social and economic potential. Attempts to use existing facilities originally designed to meet other community problems often over-tax these resources. Effective reorganization would enable the community to use existing resources more effectively and outline specific needs for future facilities.

The medical social worker should be concerned with these three areas of disorganization.

THE PUBLIC HEALTH NURSE

Traditionally, the public health nurse has dealt with disease, disability, and disorganization. By giving nursing care in the home she is directly involved with the patient's disease and disability. With increasing emphasis on basic rehabilitation techniques and philosophy, the public health nurse has assumed responsibility for providing some of the rehabilitation services ordered by the physician within the home. Helping a family deal with a sick relative and planning the development of community resources for promoting health and preventing disease have been major public health nursing responsibilities. One can view the public health nurse as the "general practitioner" of nursing.

These relationships are diagrammed in figure 1. Observe that the physician appears

in two places, being responsible for handling the disease directly and for the total care of his patient. The physician may refer direct responsibility to members of the rehabilitation team, the social worker or the public health nurse, but he retains responsibility for over-all care. In addition, the physician should be able to deal directly with disability and disorganization. In his own practice he may not be able to call in a social worker or physical therapist. (Note that with more social workers in health departments, family and children bureaus, and private practice, the physician may be able to work to a greater degree with social workers in his own practice.)

OKLAHOMA INFORMATION AND REFERRAL SERVICE

Health and welfare facilities, organizations, and personnel are available in most communities. In 1963, the Oklahoma State Health Department received a community health service project grant to establish a State-Wide Information, Referral and Consultation Service. A central index of health and welfare resources (hospitals, clinics, nursing homes, homes for the aged, church and civic service groups, professional personnel, and other services and facilities) would:

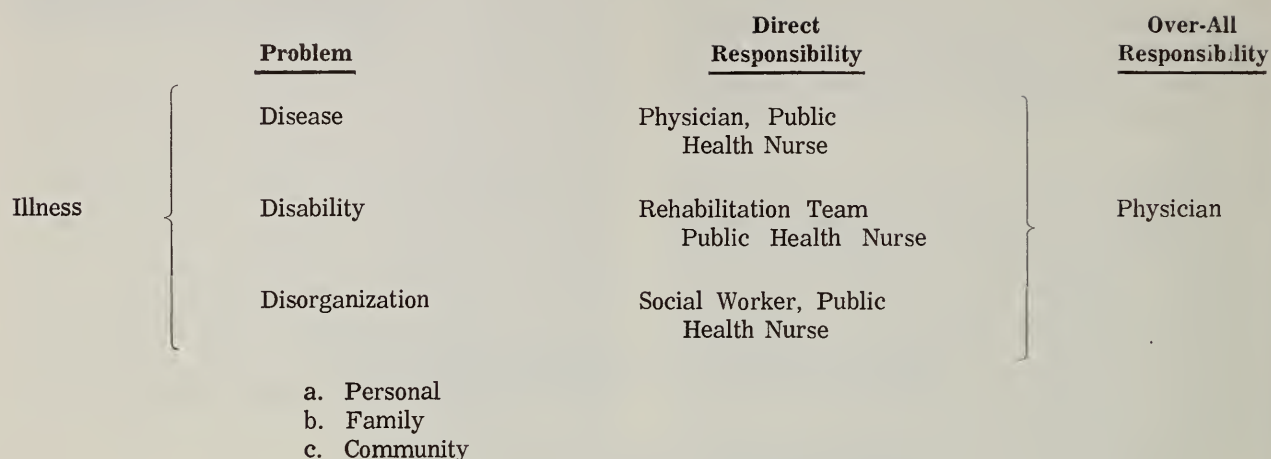
1. provide information to professional persons for specific problems,
2. help coordinate activities of service agencies,
3. identify gaps in services and aid the community in planning comprehensive care programs.

Specialists in medicine, dentistry, psychiatry, psychology, nursing, social work, physical therapy and research would be available to local communities for consultation.

In the first year of the project, information on 2,300 agencies and facilities from 508 communities in all 77 counties has been

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Figure 1



compiled. Of special interest are those services for the chronically ill and aging. The following were found most frequently available:

1. appliance and loan closets,
2. drugs for the mentally ill, the tuberculous patient and the cancer patient,
3. Senior Citizen Clubs.

Of unmet needs desired by most communities:

1. more professional personnel.
2. dental care services.
3. chronic disease multiphasic screening.
4. sheltered workshops.
5. homemaker services.

Information on health and welfare resources is now available to professional people, agencies and organizations on request. Data can be obtained for facilities at the community, county or state level. A local physician would want to know all the facilities in his community whereas a specialty clinic would require information on specific services scattered throughout the state. More than 450 requests have been received to date.

With this information the physician should

use community resources more effectively for complete patient care.

SUMMARY

The analysis of any illness into the three components of disease, disability and disorganization leads to an understanding of the roles of the physician, rehabilitation team, social worker and public health nurse. The physician is responsible for overall patient care but should utilize paramedical personnel in a complete treatment program. In Oklahoma results of a survey of community resources for chronic disease are available. With this information physicians can handle more effectively the problems of total patient care. □

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ACKNOWLEDGMENT

I appreciate the assistance of Mrs. Theresa Morris, coordinator and Mr. N. T. James, field consultant, of the Information and Referral Service in the preparation of this paper.

3400 North Eastern, Oklahoma City, Oklahoma

CALL FOR RESOLUTIONS

The Speaker of the House of Delegates of the OSMA has issued a call for all resolutions to be considered by the policy-making body at its annual session, scheduled for May 14th-16th, 1965 in Tulsa, Oklahoma.

Resolutions from county medical societies, or from individual OSMA members, must be received by the Executive Office of the association by April 14th in order to be included on the agenda. County societies are urged to utilize their March-April meetings for the purpose of drafting resolutions. County resolutions must be signed by the county society secretary and individual resolutions must be signed by the individual.

Simple Traction for Transport and Emergency

WILLIAM A. LOY, M.D.
RICHARD F. HARPER, M.D.
RICHARD W. LOY, M.D.

*Simple, accurate, weightless traction
for leg injuries for use in
disasters and transportation.*

OCCASIONALLY it is necessary to transport patients with hip fractures before definitive therapy is instituted. In the past, we have been unhappy with the patient's discomfort and the additional trauma to the site of injury resulting from such a move. Recently however we have managed this transport with much less insult to the patient by the use of a simple device described here.

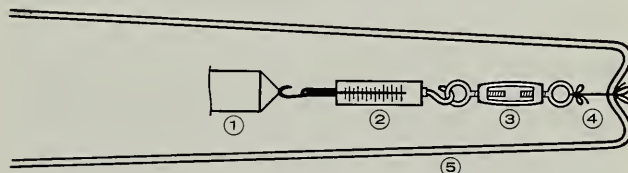
It is our practice to place patients with hip fractures in Buck's traction until evaluated and prepared for surgery. The device described here can be easily applied to patients in Buck's traction with minimal insult and the patient may be transported comfortably with continuous and effective traction.

1. Spreader
2. Spring Scale
3. Turnbuckle
4. Rope tied to Thomas splint
5. Thomas splint

If the Thomas splint is too short, it can be easily extended by attaching a board over the distal end, then tying the rope from the turnbuckle to the distal portion of the board.

This device is easily placed on the patient as follows: Weights are removed from the Bucks traction while traction is maintained by hand. The Thomas splint is slipped up

over the leg and snugly against the hip. The scale is then hooked to the spreader which is attached to the skin traction. The turnbuckle is extended to its maximum length so that its adjustment later actually applies traction to the leg. The rope is pulled tight until the scale reads two to three pounds and is then tied to the end of the Thomas splint. The turnbuckle is adjusted to the appropriate traction which is read directly on the spring scale as the hand traction is released. The patient then can be moved comfortably and with ease.



Once set, surprisingly little adjustment of the turnbuckle is necessary to maintain proper traction even though the patient is moved several times.

This simple device can be easily adapted for movement of patients with other injuries and could be of value during disasters when traction equipment is in short supply.

SUMMARY

A method of traction is presented which permits transport of patients with hip fractures.

This method utilizes a Thomas splint with skin traction, a spreader, a spring scale and a turnbuckle, attached in that order and tied to the end of the Thomas splint.

This permits transport of patients with traction properly and comfortably. □
7th and Leahy, Pawhuska, Oklahoma

Management of Deafness in General Practice

BRUCE PROCTOR, M.D.

Many aspects of the diagnosis and management of deafness can be adequately handled by the alert family physician.

IT HAS BEEN reported by the Deafness Research Foundation that 17,000,000 Americans are afflicted with some degree of hearing impairment. Hope for reduction of this widespread handicap rests mostly on preventive medicine in the hands of the family physicians of America. Otology has made spectacular advancement during the past decade in the management of various disorders. These advances will be reviewed briefly.

When lesions of the external auditory canal and middle ear affect hearing they produce a conduction type of hearing loss. Here sound waves do not reach the normal inner ear effectively. The tuning fork is heard better when pressed over the mastoid bone than when it is applied close to the ear (negative Rinne test). If the lesion involves only the inner ear and hearing is impaired, it is because the sensorineural mechanism (organ of Corti) and/or the auditory nerve is affected. In such instances the tuning fork is heard

better by air than by bone (positive Rinne test). The degree of hearing loss can be estimated roughly by the whispered and spoken voice tests. The distances at which the whispered and spoken words are heard can be compared with the distance that these sounds are heard by normal individuals. The general practitioner can estimate the degree and type of hearing loss quite well with the use of a tuning fork and voice tests.

When the hearing impairment is unilateral the good ear is occluded with a finger in the external auditory canal while the voice tests are being done. Sometimes it is desirable to mask out the good ear to exclude the possibility of hearing in the wrong ear. Fairly satisfactory masking can be performed by vigorously rubbing the palm of the hand over the auricle on the uninvolved ear while whispering or speaking into the involved ear.

Impacted cerumen is the most common cause of hearing loss from external canal lesions. Cerumen can be removed by syringing the ear with warm hypertonic saline or by the use of an ear hook or spud. If there is a history of previous otorrhea from the occluded canal, syringing should not be used since subsequent otorrhea may result from contamination of the middle ear through a pre-existing perforation of the tympanic membrane. If the cerumen is hard and badly impacted, it may be necessary to have the patient instill a cerumen softener at frequent intervals for several days before again attempting to remove the impaction. There-

after the patient should return after a few months for periodic removal of cerumen before it impacts again.

Middle ear effusion or catarrhal otitis media is a frequent cause of hearing impairment. An acute form is seen complicating a "head cold." The patient has a sensation of stuffiness in his ear as if water had entered the external auditory canal. Otoscopic examination shows changes of the tympanic membrane. It is dull, retracted, the light reflex is gone, the hammer handle is narrowed and perhaps chalky white in color. The short process is prominent and one may sometimes actually see air bubbles in the fluid behind the drum. Treatment for the first week should be conservative with sedation, frequent hot saline gargles, nasal vasoconstrictors and oral decongestants. When the effusion persists, myringotomy and aspiration of the fluid with insertion of a short (15 mm.) piece of polyethylene tubing, size No. 60, should be done. Such a tube can remain in place for a month or so. Myringotomy in these cases usually can be done without anaesthesia. The knife should be small and sharp and care taken not to touch the medial tympanic wall. The site for myringotomy should be just in front of and below the umbo and should be no more than a simple stab incision. The polyethylene tube is inserted with a delicate forceps of the Hartmann type.

The clinical picture of acute suppurative otitis media is quite different from catarrhal otitis. There is a pronounced otalgia usually with fever. Otoscopic examination may show a red bulging drum and obscured landmarks. Whenever the drum is bulging a myringotomy should be done immediately, otherwise the retained pus under pressure in the middle ear can produce irreparable damage to the delicate middle ear structures vital for normal hearing. One should not wait for resolution with the use of antibiotics. Myringotomy in these cases requires a local or light general anaesthetic. A small pledget of cotton soaked in Bonaine's solution made up of equal parts of cocaine, phenol, adrenalin solution and menthol crystals will usually give adequate local anaesthesia. Antibiotics in these cases should be maintained at high doses until the middle ear inflammation has resolved. Adequate dosage of anti-

biotics should be maintained for at least a week after the acute systemic reactions have subsided to prevent recurrence of the suppurative process.

If the patient is seen very early in the course of acute suppurative otitis media the drum may be intensely hyperemic but not bulging. One may delay myringotomy and rely then on antibiotic therapy to control the inflammation before pus accumulates and bulges the drum. In either case the physician must sometimes keep these patients under observation until the hearing is restored to normal, a matter of four to eight weeks. The use of antibiotics frequently sterilizes the middle ear, but leaves fluid which may take weeks to resolve. This situation has been termed "antibiotic deafness." Such fluid residual often becomes organized to some degree leaving an adhesive process in the middle ear which may affect the normal mobility of the ossicular chain permanently and reduce hearing. Again myringotomy and decongestants are used to speed the resolution.

Children are very prone to an insidious middle ear effusion. Frequently the first clue to hearing impairment is found at routine school audiometric examinations. Such children do not hear well in the classrooms and fall behind in their learning processes. It is important that all family physicians be aware of this problem and manage it effectively. The most common cause of middle ear effusion in children is hypertrophy and inflammation of the adenoid tissue, which in turn obstructs or causes inflammation of the eustachian tube orifice. The treatment of choice is to remove the adenoid tissue. The tonsils may or may not be removed at the same time, depending on the judgment of the physician. Very often, however, the child has already had an adenoidectomy.

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Several factors now have to be considered. Was the adenoid tissue adequately removed at the first operation? If it were, then is there cause for recurrence or hyperplasia of residual adenoid tissue? Chronic suppuration in the paranasal sinuses in children will cause a startling regrowth of adenoid tissue. X-ray studies of the paranasal sinuses usually will show involvement, especially in the maxillary sinuses. Maxillary sinus suppurations often can be treated in children by bi-weekly lavages through the natural ostium of the offending sinus. If this is not possible, a secondary adenoidectomy is combined with intranasal antrostomy or an antrum window operation, the latter procedure being designed to drain the infected sinus dependently into the inferior meatus of the nose. Ill effects from proper sinus surgery in children under these circumstances are practically unknown.

Nasal allergies also are to be considered as a possible factor in middle ear effusions. This must be treated, but when sinus infection is also present the child is treated immediately for his sinus infection in the above manner, without waiting for the sometimes protracted allergy treatment. In these cases the middle ear must be aerated as quickly as possible so that irreversible changes do not occur in the middle ear. At the time of adenoidectomy, whether primary or secondary, the drum is incised and polyethylene tubing is inserted for temporary drainage of the middle ear fluid and the passage of air into the tympanic cavity from the external canal.

At this point it would be wise to include some comments concerning adenoid surgery. Of all operations upon the human body, it is without doubt the poorest surgery performed. Factors responsible for this may be listed as follows: (1) it is somewhat of a "blind" operation, (2) some operators fail to raise the palate and look at the adenoid bed, (3) some fail to palpate the nasopharynx for residual masses, (4) bleeding may be vigorous and the surgeon hurries through the procedure, (5) the anaesthesia may be inadequate and finally, (6) many physicians never have learned or mastered the proper technique for adenoidectomy. It is suggested

that the best and quickest way to correct these deficiencies would be for the general practitioner desirous of performing this surgery to observe and even work with an otolaryngologist until he has mastered the techniques of this surgery. The presence of recurrent or residual adenoid tissue can be determined in several ways: (1) mirror examination of the nasopharynx through the oropharynx, (2) shrinkage of the nasal mucosa with vasoconstrictors and direct visualization and palpation with a probe of the exposed nasopharyngeal wall, (3) digital palpation of the nasopharynx through the mouth and (4) lateral x-ray examination of the skull.

Occasionally, in spite of correcting disorders in the nasopharynx and paranasal sinuses, the eustachian tube fails to function properly. The problem may be hyperplasia of lymphoid tissues in the tube itself. This can be determined by direct vision of the eustachian tube orifice with a nasopharyngoscope. Irradiation of the eustachian tube with small doses of x-rays may then permit restoration of function and resolution of the middle ear effusion.

A rare cause of tubal obstruction, particularly in adults, is carcinoma of the nasopharynx. This disease may manifest itself by the appearance of middle ear effusion, persistent pain and bleeding from the nose or mouth. Early cases sometimes can be cured by irradiation therapy.

Long-standing middle ear effusions eventually result in adhesive otitis media. Until recently very little could be done to alleviate the hearing impairment aside from wearing a hearing aid. During the last decade, reconstructive ear surgery (tympanoplasty) has made it possible to restore some of the hearing loss in certain of these cases. If the malleus and incus are firmly fixed by adhesions, but the stapes is still movable, the former ossicles can be removed and the drum moved to contact the stapes. If the ossicular chain is completely rigid it is possible to remove it entirely, place a piece of fascia or other suitable graft over the oval window and connect the graft to the drum with a suitable prosthesis. One can even restore some hearing loss with a properly executed fenestration of the horizontal semicircular canal.

Chronic suppurative otitis media today is nearly as prevalent as it was in the pre-antibiotic era. Most of these cases have some degree of hearing impairment. The simplest form is the dry central perforation of the drum. These should be closed since hearing usually progressively deteriorates over the years, due to repeated temporary otorrhea following swimming, showering, and the like, and to epithelial changes in the middle ear from a tendency to a drier middle ear mucosa. Many of these perforations can be closed simply by chemical cautery of the margins of the perforation and by the application of cigarette paper discs or similar prosthetic materials to the outer surface of the drum covering the perforation. Chemical cautery is done by dipping a fine wire into concentrated trichloroacetic acid solution and gently applying the end of the wire to the entire edge of the perforation. Care must be taken not to touch the middle ear mucosa or the external surface of the drum and canal wall. This treatment, if repeated at monthly intervals, will tend to gradually close the perforation. If conservative treatment fails, then myringoplasty with surgical closure of the defect by use of vein, fascia or skin grafts is advisable.

Chronic suppurations in the ear which persist in spite of the local application of antibiotics, antiseptics and the like, demand surgical removal of chronically infected bone or cholesteatomata. Attention must be called to the ineffectiveness of orally administered antibiotics on chronic middle ear suppurations. This is because an effective local level of antibiotics cannot be built up by the oral route. Surgery is mandatory, not only to prevent complications such as facial nerve paralysis, brain abscess, meningitis, extradural and subdural abscess and lateral sinus thrombosis, but also to conserve hearing or even to restore some or all of the hearing loss. During the past decade otological surgeons have developed various techniques to preserve or restore hearing by applying present day knowledge of the physiology of hearing and the principles of plastic surgery. This approach has been aided by the perfection of an operating microscope and the development of new instruments for this precise type of surgery. It is possible now at one operation to control the disease process

surgically in the middle ear, preserve or reconstruct an ossicular chain, and cover the perforation and exposed ossicles with a properly tailored fascia, skin or vein graft. If the malleus and incus are diseased and must be removed, the drum can be placed on the stapes if it is mobile and thus transmit vibrations to the inner ear. When the stapes is eroded the drum can be attached to the promontory below the oval window but above the round window and still give a good hearing result. The reason for improvement in hearing in such a case is that sound waves coming into the ear move only the stapes footplate in the oval window. The round window membrane then moves in opposite phase to movement of the oval window. The drum placed on the promontory acts as a baffle, keeping sound away from the round window. If sound reaches both windows simultaneously, as after a radical mastoidectomy, they neutralize each other and there is little if any movement of the windows into the inner ear fluid system. Hearing requires movement of the inner ear fluids to move the basilar membrane and stimulate the organ of Corti.

The most common cause of middle ear deafness is otosclerosis. Its onset is painless and progressive in middle aged individuals. Frequently there is a family history of progressive deafness. In this disease the stapes becomes fixed in the oval window by proliferation of bone. The inner ear and its sensory end organ of Corti are usually normal. Surgical correction first became possible twenty-five years ago by the development of the fenestration operation which created a new window to replace the obliterated oval window. During the last decade an even better functional operation has been developed. This consists of reopening the sealed oval window and restoring the function of the ossicular chain. At first the stapes was mobilized by pressure or by loosening it with fine chisels. In more than half of these cases the otosclerotic focus was still active and new bone formation again caused fixation of the stapes and recurrence of hearing loss.

More recently the entire stapes, including the footplate, was removed. The opened oval window was then covered with a vein graft and a polyethylene tube was inserted be-

tween the graft and the incus to replace the stapes and restore a functioning ossicular chain. Somewhat similar results were obtained later by another technique wherein the oval window is plugged with a fat graft. This graft is connected with the incus by means of a stainless steel wire prosthesis. A later method is the use of a teflon or stainless steel piston inserted a short way into the inner ear through the oval window. These pistons are hooked onto the incus. Another acceptable technique is to remove the footplate from the oval window, cover the window with vein or compressed Gelfoam® and replace the intact stapes crura on the vein graft. This has the advantage of avoiding the use of inert foreign material to replace the stapes. It is now possible to overcome the conductive hearing loss of otosclerosis in at least 90 per cent of the cases. Diagnosis can be suspected by the presence of a normal drum and a conduction type of hearing loss, as determined by simple tuning fork tests. If the patient refuses surgery or if there is a contraindication for even this mild form of surgery, then relief of hearing impairment can be obtained by the use of a hearing aid.

Next to be considered are diseases of the inner ear. These involve the sensory hair cells in the organ of Corti. For the most part these lesions affect the hearing permanently and there is little that can be done in these cases. If some of the lesions are seen in the acute phase it may be possible to bring them under control and get some of the hearing loss restored. In inner ear deafness, we rely a great deal on hearing aids to partially overcome the handicap. Further benefits are obtained from rehabilitation therapy such as lip reading.

Meniere's disease is characterized by repeated bouts of dizziness, tinnitus, hearing loss and a sense of pressure or fullness in the ear. The attack may last several hours or a few days. Medical treatment consists of the use of antihistamines, nicotinic acid in sufficient doses to produce flushing, dehydration, ammonium chloride, saltfree diet, atropine and sedation. In severe attacks intravenous histamine is beneficial. With cessation of the acute attack there is usually some

return of hearing. Recurrent attacks usually cause progressive deterioration of hearing so it is important to keep up an adequate program to minimize or prevent recurrences. Only in rare instances of troublesome and persistent ataxia is surgical destruction of the labyrinth required.

Exposure to loud noises over a protracted period such as occurs in a noisy shop may lead to a progressive high tone hearing loss. Preventive measures are: (1) reduction of noise at its source by sound proofing, rubber mountings for noisy machinery and redesign of noisy machines; (2) placing the worker in a soundproof booth if possible; (3) installation of automation equipment to eliminate the need for a worker in the noisy operation; (4) insistence on the use of ear defenders by such exposed workers; (5) periodic audiometric examination of exposed workers to permit detection of early neural losses and the removal of susceptible workers from the job and (6) frequent rest periods from noisy operations when other more practical measures cannot be worked out. Sudden exposure to very intense noise such as explosions and gunfire may produce permanent high tone hearing loss.

There are a number of drugs which are ototoxic and may damage the organ of Corti permanently. Some of these drugs are quinine, salicylates, dihydrostreptomycin, streptomycin, kanamycin and neomycin. In general, one must caution against the use of any drug if it produces tinnitus which is usually the first sign of ototoxicity. Continued and prolonged use of such drugs in susceptible individuals may lead to total deafness. It may be necessary to use such drugs but the physician should be on the lookout for tinnitus, loss of hearing and disturbances in balance, when another drug may be substituted if necessary.

Occasionally in viral infections, such as mumps, the inner ear is involved and a complete and permanent neural loss occurs. There is no known effective treatment. All mumps cases should have simple voice tests performed as a routine procedure to detect this loss so that its significance can be explained to those concerned.

A host of neurological diseases may involve the inner ear. Among them are: neurosyphilis and multiple sclerosis. A number

of hereditary and congenital causes of deafness are clearly recognized. In this respect attention is called to the incidence of deafness in premature infants subjected to high oxygen incubators and in infants with Rh incompatibility. Prolonged labor, heavy sedation during labor, anoxia or birth injuries may damage hearing in the newborn permanently. Deafness also may be acquired from maternal viral infections (particularly rubella and measles) during the first trimester and from drugs taken during pregnancy. These severely or totally deafened children will not develop speech and it is of utmost importance to recognize their handicap so they may receive partial education beginning in the preschool period. Children with irreversible partial hearing losses can be fitted with hearing aids so that they can develop adequate speech patterns as much as possible.

Skull fractures produce both middle and inner ear deafness. Fractures extending into the middle ear can disrupt the ossicular chain. These fractures are of the longitudinal type and occur in blows on the temporal or parietal surfaces of the skull. Frontal or occipital blows tend to produce transverse fractures of the temporal bone. This fracture affects the bony labyrinth and produces total, permanent deafness and loss of vestibular function, and very often a permanent facial nerve paralysis as well. Any head injury, whether it fractures the skull or not, may cause permanent hearing loss by shaking off the delicate hair cells in Corti's organ.

Lesions of the auditory pathways are an-

other cause of nerve deafness. Among these are cerebello-pontine angle tumors such as an acoustic neurionoma which will usually produce a severe unilateral deafness. These cases also will have loss of vestibular function which can be detected readily by douching the external ear with cold water and demonstrating the diminution or absence of an induced nystagmus. The general practitioner should suspect the possibility of a cerebello-pontine angle tumor in all adults with a unilateral progressive nerve type of deafness.

The causes for deafness are myriad. The general practitioner, however, with a working knowledge of the points brought out, can handle many cases of hearing impairment that are brought to his attention. The diagnosis of the type of deafness, whether conductive or of the nerve type, is usually not difficult. In some instances it is possible to correct the condition with the training that is available to the generalist. He is also in a position to use important preventive measures and reduce the incidence of the serious handicap of hearing impairment in our population. He should also assume the responsibility for seeing to it that cases beyond his means of diagnosis or treatment are referred to those properly qualified, so that modern otological medical and surgical knowledge can be applied for relief of his patients' distress.

The future holds an ever increasing role for the general practitioner in the management of hearing impairment and deafness. □

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The Organization of A Hospital Staff

B. C. CHATHAM, M.D.

The medical staff organization of the Grady County Memorial Hospital has been given much of the credit for the county's overall low rate of utilization. Blue Cross admission rates are far below the state average, resulting in a \$4.70 monthly reduction in family Blue Cross dues as compared to the state average.

IN THIS REVIEW the emphasis will be on smaller hospitals, 100 beds or less, because their problems are unique. Such hospitals in Oklahoma need to tighten their organization to reduce utilization not only for privately insured patients but also for recipients of Department of Public Welfare aid.

Five questions are proposed and some answers are attempted:

A. Why does the medical staff organize itself and adopt medical staff by-laws?

B. What are the general provisions of good medical staff by-laws?

C. What committees are important and what are their functions?

D. What is the importance of medical records in patient care?

E. How can the governing board assist

the medical staff in enforcing its by-laws?

A hospital staff organizes for the following reasons:

1. To provide the best professional care for the sick and injured;
2. To maintain the greatest efficiency of the medical staff;
3. To provide self government for the medical staff;
4. To participate in the educational program of the hospital, such as nurses, house officers, nurses' aides, orderlies, laboratory personnel, x-ray personnel, ambulance attendants, housekeeping personnel and all other people who play a part on the hospital team;
5. To provide an audit of professional work;
6. To consult with the administration and governing board.

To enlarge on each point briefly:

1. Professional care includes examining the patient, establishing a diagnosis with the aid of the laboratory, x-ray and proper consultations, and treating the patient in an acceptable manner. Finally this management is evaluated and the case summarized.
2. Efficiency is maintained by a review of the work and comparison with the results in comparable institutions.
3. Only a self-governing staff can render efficient, coordinated medical care.
4. If the staff is to maintain good treat-

ment it must have a hand in the education and training program of the individuals who participate in patient care.

5. Only by an objective review, an audit, can a staff evaluate its work. This should be done frequently by outside physicians.

6. The staff must consult with the administration regularly so the institution can be run harmoniously and efficiently.

Members of the staff are appointed by the governing board only after recommendations from the medical staff. The importance of this feature cannot be over-emphasized because the board, after competent advice and evidence, must render disciplinary measures without creating undue animosity among the staff. All investigations and recommendations are made by the staff, but the final action can be taken only by the governing board.

The two common types of medical staff are:

A. Open—any licensed physician may serve on the staff.

B. Closed—usually limited by the proprietary nature of the hospital or by the specialist nature of the institution, for example, a psychiatric hospital.

Recently a more workable classification has been used, namely "open" but with clearly defined limitations to each physician's privileges. If these limitations are reviewed carefully by an impartial committee and appointments are made for no more than two years, the staff usually functions well. Re-appointments should not be routine; they should be requested and the privileges requested should be justified by training and experience.

The by-laws of a good medical staff should insure the following essential results:

1. The best possible patient care;
2. Free exchange of ideas among doctors on the staff;
3. Coordination of the work by all ancillary personnel with physicians' activities;
4. A comprehensive audit of professional work to strengthen any weak points in patient care;
5. A basis for medical research.

The usual divisions of a medical staff are:

1. Honorary—this must be earned before it is given;
2. Consulting—only for well trained, experienced and qualified physicians and dentists;
3. Active—awarded to practicing physicians in the community;
4. Associate—a category for less active individuals or for physicians just beginning practice;
5. Courtesy—this classification accommodates physicians who rarely use the hospital facilities but who wish to maintain their hospital connections;
6. Resident—house officers in larger institutions.

The usual medical staff has the following officers:

- A. Chairman or Chief of Staff
- B. Vice-Chairman
- C. Secretary
- D. Section Heads—at least two:
 1. Medicine
 2. Surgery

Further breakdown into Obstetrics-Gynecology, Pediatrics, etc., is necessary when service size demands it.

The necessary committees and their functions are:

1. Executive Committee
 - a. Coordinates all staff activities;
 - b. Acts for the staff between meetings as directed in the by-laws;
 - c. Receives all committee reports;
 - d. Institutes action in any area where staff action is indicated.
2. Credentials Committee—Evaluates the credentials and privileges sought by physicians who apply for staff privileges.
3. Joint Conference Committee—The medical staff, the administration and the governing board meet to establish rapport in all areas where the paths of these groups cross.
4. Medical Records Committee—This group evaluates a fair sampling of hospital records to assure good medical care.
5. Tissue Committee—This group attempts to reconcile diagnoses with the pathological reports on tissues removed at surgery.

6. Medical Audit—The care rendered by the staff is evaluated. This function can be a part of the medical records committee.
7. Intern Committee.
8. Pharmacy Committee—This group reviews and establishes a list of all medications used by the hospital.
9. Program Committee — Each general staff meeting should have a professional program dealing with the problems of patient care.
10. Infection Committee — All infections which develop in the hospital should be reviewed critically.

Medical staff by-laws should cover the following points:

1. The qualifications of the professional staff;
2. Privileges of the professional staff;
3. The organization of the professional staff;
4. Prohibition of fee splitting;
5. Specification of what constitutes an accurate and complete hospital patient record;
6. Establishing the time for regular staff meetings;
7. A stipulation that all tissues removed from patients are examined by a pathologist;
8. Assurance that all patients are examined before any treatment is instituted;
9. Insistence on *informed* consent from patients (or their legal guardian) before any hazardous medical or surgical treatment is begun;
10. Requirement that all doctors' orders are written and signed, with the exception of certain emergencies;
11. Statement that the administration has sole power to admit patients on the advice of the medical staff;
12. Assurance of consultation for primary caesarean sections, sterilizing or castrating operations, interruption of known or suspected pregnancies and in any case where the diagnosis is obscure.

Specialty staff conferences are not feasible in smaller hospitals but problems should be discussed at general staff meetings. Attendance at these meetings is compulsory and

three consecutive absences without adequate cause leads to automatic expulsion.

Medical records are an extremely important product of patient care. The care a patient receives in a hospital is reflected in the quality of his medical record. A scant, insufficient chart indicates that the patient received scant, insufficient care.

A good chart has the following features:

- a. Good history,
- b. Complete physical examination,
- c. Laboratory and x-ray studies as indicated,
- d. Appropriate consultations,
- e. Lucid operative notes,
- f. Frequent, succinct progress notes,
- g. Informative summary.

All records belong to the hospital and should remain in the hospital under adequate protection. They can be reviewed by an outsider only on proper authorization by the patient or his legal guardian. They cannot be altered, once completed and in the record library. They are opened only for official staff business and not for the idle curiosity of the staff.

The relations of the staff and the governing board in enforcing the by-laws are as follows:

1. The board allows only good by-laws to be written and adopted;
2. The board allows no changes that would downgrade patient care;
3. The board supports the general staff when enforcement of discipline is necessary;
4. The board demands that the medical staff live within its by-laws.

The hospital trustee is responsible for patient care. For example if surgical privileges are given to an unqualified physician and his care produces a bad result, the doctor, the hospital, the administration and the trustees may become defendants in legal action and judgments can be rendered and made binding against them. So, review all privileges granted to staff members carefully, so that no one is allowed privileges beyond his competence except when he is being trained or is under the guidance of a qualified staff member.

Finally, audits are necessary to evaluate a hospital's work. They should cover the following areas:

1. An average bed occupancy rate above 80 per cent indicates overcrowding;
2. An average hospital stay above twelve days is unusual;
3. Gross results, the number of patients improved, unchanged or dead should be reviewed carefully;
4. The death rate should be within three to four per cent;
5. Fifteen to twenty per cent of all patients should have consultation;
6. More than two per cent incidence of infection in clean surgery should be a danger signal;
7. There should be no more than three to four per cent complications in medical, surgical and obstetrical cases;
8. Unnecessary or incompetent surgery should be suggested by:
 - a. Tissue committee;
 - b. Surgical evaluation committee;
 - c. Rate of primary Caesarean Sections, (not more than five to six per cent) ;

9. The autopsy rate should be above 20 per cent in all institutions and above 25 per cent in hospitals having an intern program;
10. Staff meetings at regular times with a critical review of hospital material.

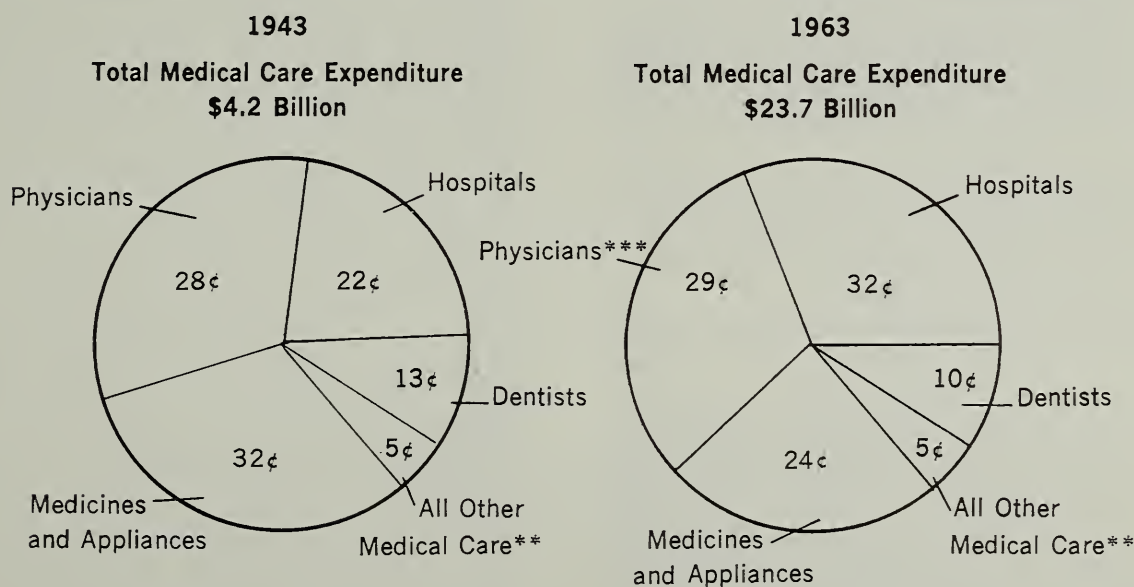
Only by periodic review and analysis of clinical work will patients be assured of competent medical care. In the same vein, if the profession avoids socialized medicine, the future will certainly bring demands from insurance carriers that adequate care is rendered to their policy holders. Only a soundly organized competent staff can render such care. □

REFERENCES

1. Five Basic Publications of Joint Commission on Accreditation of Hospitals, January 1964, 200 East Olive Street, Chicago, Illinois.
2. Hospital Organization and Management, Mac Eacheron—Physicians Record Company, Berwyn, Illinois (1962).

2222 Iowa Avenue, Chickasha, Oklahoma

DISTRIBUTION OF THE MEDICAL CARE DOLLAR*



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 ** Includes other professional services and nursing home care.
 *** Includes osteopathic physicians' services.

Source: United States Department of Commerce and United States Department of Health, Education and Welfare.

Balance in Modern Medicine

WILLIAM S. MIDDLETON, M.D.

MY SINCERE congratulations on your clearance of the second and third hurdles of your medical education, respectively, for the Interns and Residents. Such recognition is as well deserved as it is hard won. Particularly would I publicly express my gratitude for the year of grace given me to work with you. It has been a most rewarding experience.

The late James Waring wrote, "Once one has put his hand to the medical plow, he is not fit for the Kingdom of Heaven if he does not ever look forward."

Medicine is a discipline of continuing education. Upon the background of primary and secondary education, you have undergone a stern preparation for your professional careers in the undergraduate college and the medical school curricula. Your graduate exposures have taken you through the internship and, in most instances, into areas of specialty training as residents. Particularly at the graduate level have you come to realize that the physiognomy of disease can be learned only at the bedside. Classroom exercises, lectures, laboratories and libraries are merely tools to cement your observations

of the sick and disabled patient. In such observations objectivity, pertinacity and the intellectual curiosity of the inquiring mind will carry you a long way toward your ultimate goal. May I indicate that discernment comes to play a most important role in your growth as observations become more and more refined; for the capacity of fine discrimination marks your potential for development. The support of laboratories exercises an increasingly important part in your continuing education. Intelligently and discriminately used, this element is essential to the modern practice of medicine. However, random probing without direction is the refuge of the mentally destitute that should be assiduously avoided. In no other human endeavor is directional reading so important. The immediate clinical situation will in most instances dictate the area of study. Particularly would I commend its careful relation to the problem of the day by references to the elucidation of disease phenomena, in the basic sciences. A short time past, great systems of medicine or other areas were popular. With the present pace of medical advance, when even the most modern texts are five years behind time, recourse must be had to current literature. Choose well the medical journals regularly studied and do not limit your reading to your special field. Budget your time so that at least one hour a day is given to the study of the medical literature. For ready reference, abstract

*Being in substance remarks made at the Certificate Granting Exercises for the Interns and Residents, the Veterans Administration Hospital, Oklahoma City, June 12th, 1964.

cogent articles and maintain a cross indexed file by disease and system. To change the pace, cultivate the habit of non-medical reading.

The revolution in science has changed the face of medicine. With some temerity, therefore, one attempts to prophesy the image of medicine twenty years hence, when you will reach the peak of your professional competence and stature. With the advantage of more than fifty years in the vineyard, with some trepidation I will undertake this task in broad general principles. When I entered medical practice, over half a century ago, the clinical study of disease had undergone little change during the preceding century. History taking perhaps had been somewhat refined, but the principles of physical diagnosis laid down by the French school of Corvisart, Laennec and Louis had undergone no significant change in this period. The simple laboratory procedures available to us could be listed on the fingers of one hand, and x-ray study was indeed primitive.

The last fifty years have witnessed revolutionary changes in medicine. In the main these have arisen through the increasing application of advances in biology, biochemistry, physical chemistry, enzyme chemistry, immunochemistry, genetics, physiology, pharmacology, microbiology and pathology. If we stop to consider a single area, namely, that of pharmacology, this period has seen the introduction of insulin, liver, vitamin B₁₂, sulfonamides, antimicrobial agents and steroids. (Salvarsan was discovered just before this period [1910].) These elements alone have revolutionized the practice of medicine. With the better understanding of the double helix of deoxyribonucleic acid (DNA) and the messenger, ribonucleic acid (RNA) the very secrets of life may be disclosed shortly. The demonstrations of disturbances and distortions in the arrangement and configuration of chromosomes have elucidated certain structural faults and inborn errors of metabolism for the first time. Truly we are moving steadily from cellular to molecular medicine and the pace is accelerating.

Extracorporeal circulation has rendered open heart surgery very effective in correcting intracardiac septal and valvular faults. Peripheral vascular surgery has attained a level of effectiveness undreamed of a genera-

tion past. The replacement of diseased or functionless organs by normal members has been the subject of intensive study for many years. While the recent successes have led to overenthusiasm in certain claims, the basic understanding of the mechanism of rejection has advanced apace and the prospect for avoiding such adverse results has become brighter and brighter with measures of suppression of the reaction.

The age of automation is upon us. As might be expected, the application of electronic devices to laboratory procedures led the way. A few years ago a heavy blizzard isolated Boston. Many of the essential laboratory technicians could not reach the Veterans Administration Hospital. In their absence, for two days, resident physicians of the staff through the available electronic devices such as the Coulter counter and the autoanalyzer conducted the essential laboratory examinations without interruption. Monitoring vital signs, electrocardiography and electroencephalography by telemetry and other electronic devices are widely used today. Spectacular results have attended the control of heart block by the implanted electronic pace-maker. Dispensing drugs now can be accomplished with a minimum of error by automation. Several years ago the Veterans Administration engaged the services of the Systems Development Corporation in Santa Monica, California, to study the feasibility of the application of automation in several directions, *i.e.*, hospital operation, research support center and patient data processing. A simulated ward was set up and its operation in the admission, movement and discharge of patients, together with pertinent information as to per-

William S. Middleton, M.D., was Visiting Professor of Medicine at the University of Oklahoma School of Medicine during the 1963-64 academic year. Formerly Professor of Medicine and Dean at the University of Wisconsin School of Medicine, Doctor Middleton also has held the presidency of the American College of Physicians and received the Alfred Stengel Memorial Award in 1962. He retired as Chief Medical Director of the U.S. Veterans Administration in 1963 after eight years of distinguished service in this capacity.

sonal data, cardinal symptoms, diagnosis, laboratory returns and treatment was controlled by a computer. The success of the experiment has led to its transfer to the actual operation of a ward at the Wadsworth Veterans Administration Hospital in Los Angeles. In the sophisticated area of modern medical research, it is obviously impossible to duplicate all skills at every one of the hundred and forty hospitals in which research programs are currently being conducted. The centralization of special skills in geographically strategic points over the country affords advice and guidance, not control and supervision, to the host of workers in this system who are seeking the widest application of newer methods to their studies. The medical record is a point of natural attack for data processing. In my mind's eye the future in a given hospital, then an area, and finally nationally will so reconstruct the history, physical examination and laboratory data that by appropriate coding and programming, a given patient's record will be immediately and permanently recorded at a central point. Obviously such an input with a great storage and retrieval on call would have a tremendous potential for the growth of medical knowledge. Record linkage has already been applied over a limited area in Great Britain (Acheson).

While the promise of this prospect is quite overwhelming, we must anticipate the legal

hurdle of privileged information that would have to be reconciled with such a coverage. More important from the standpoint of the possible impact of such an approach on the traditional patient-physician relationship is the threat of impersonality. Ogilvie spoke of "the worship of the expert" in terms of technolatriy. Since automation is here to stay, eventually the computer will have a place in the actual diagnosis and treatment of disease. Under these circumstances two points must be borne in mind clearly. The machine is no more accurate than its master. Such retrieval as is available in the output will depend on the accuracy of the input. Under Doctor Edward N. Brandt we have made a sound beginning in this most important field in Oklahoma. Our staff has made conspicuous contributions to this significant area and we must protect our advantage. Furthermore the most important ingredient in the patient-physician relationship is an understanding heart. In this period of transition, your generation must maintain a delicate balance to capitalize on the technical advances as you maintain a compassionate attitude toward your sick and disabled human charges.

Osler sounded this admonition, "Medicine is an art, not a trade; a calling, not a business; a calling in which the heart will be exercised equally with the head." May God speed you. □

2114 Adams, Madison, Wisconsin

OSMA REGIONAL POSTGRADUATE COURSE

"THE OVARY"

Oakwood Country Club

Enid, Oklahoma

April 20th, 1965

AFTERNOON SESSION

- | | |
|-----------|---|
| 4:30 p.m. | OVARIAN DEVELOPMENT AND
PHYSIOLOGY
Warren M. Crosby, M.D. |
| 5:00 p.m. | PATHOLOGY OF OVARIAN TU-
MORS
James A. Merrill, M.D. |
| 5:30 p.m. | DIAGNOSIS AND TREATMENT OF
ESTROGEN DEFICIENCY
John F. Kuhn, M.D. |

EVENING SESSION

- | | |
|-----------|--|
| 7:30 p.m. | OVARIAN CONSERVATION—
WHEN SHOULD A NORMAL OV-
ARY BE REMOVED OR RESECTED?
Warren M. Crosby, M.D. |
| 8:00 p.m. | OVARIAN FACTORS IN INFER-
TILITY
James A. Merrill, M.D. |
| 8:30 p.m. | TREATMENT OF OVARIAN CAN-
CER
John F. Kuhn, M.D. |

Registration \$7.50 includes dinner

Acceptable for 4 hours Category I Credit by the American Academy of General Practice

An Open Letter to the Department of Surgery, University of Oklahoma Medical Center

San Francisco
July 5, 1964

Honored Colleagues:

A close family tie first drew me to Oklahoma City. Through the kindness of the Professor and Head of the Department of Surgery at the University of Oklahoma Medical Center, I was appointed Visiting Professor of Surgery. Thus privileged I was enabled to share intimately in the activities of your department. The month so spent was one of the most memorable in my more than forty years in the teaching and practice of surgery.

Approaching Oklahoma I recalled a day long past when I drew near a medical center farther to the north in the same great mid-western plain, there to spend the basic years of my surgical training. In contrast, Oklahoma's checkered farm lands are flatter, the colors more red-brown than green, the cluster of buildings which seem to spring from the earth that nourishes them more numerous and taller. Then I came by train, today by air; but the thrill of expectation and adventure that stirred in me was the same.

In the welcome press of activity that followed immediately on my arrival, the work and thoughts of the day naturally dominated. Now that I am home there is time for reflection and what more natural than that this would bring thoughts of then and now. As the future is built on the present, so is the present a product of the past. A few random comments and impressions may be of some interest to you.

The first surgical procedure I witnessed at the Oklahoma University Hospital was a

skillfully done bifurcation graft replacement of an aortic aneurysm. This typified in part the spectacular advance in cardio-vascular surgery in the intervening years. A quite recent addition contributing to the success of this operation is the "G" suit devised by the Head of Surgery at the Veterans Administration Hospital. An adaptation of the space suit used in flights beyond the earth's atmosphere, it enables the surgeon to control accurately the overall pressure in the patient's lower extremities during the interruption of the blood flow and its return. Another operation that morning was a colon transplant to replace an excised esophagus. I recalled a somewhat similar operation by Hedblom at the Mayo Clinic in the nineteen-twenties, only he fashioned a tubular skin graft as replacement. Doctor Hedblom was one of the early surgeons to focus his attention on lesions within the chest cavity. At the Kahler Hospital there was a Sauerbruch negative pressure chamber in which several operations were done which could not otherwise have been attempted. They did not arouse much general interest at the time; they seemed too esoteric and remote from the reality of every day surgery. Not long afterwards the simple method of intratracheal anesthesia, already partially conceived by Andreas Zesalius, made this expensive and cumbersome apparatus obsolete and helped to open up the vast field of cardiac and thoracic surgery.

About this time also the first physician anesthetist joined the Mayo Clinic Staff. Others had preceded him elsewhere. One such during my student days at Stanford-

Lane used to inhale as much of the chloroform-ether mixture as the patient and frequently anesthetist and patient went to sleep together. In some miraculous manner the anesthetist always managed to waken before the patient and was thus able to saturate the mask sufficiently to put both to sleep again. This performance was repeated as often as the length of the procedure required and to my recollection nothing dire ever came of it. Let me be clear. Advances in anesthesia, improved patient care based on physiological principles, and control of infection with antibiotics have enabled the surgeon to broaden and develop the art and science of surgery.

Human factors are much the same today as yesterday. The relationships between doctor and patient have widened in scope but not in kind. The association between staff and resident is a little less formal and more friendly now, with the required discipline nevertheless maintained. Individual surgical techniques in both old and new procedures remain much the same. The knife still cuts, vessels still bleed, and the organ under attack must still be exposed. Basic operations on the intra-abdominal viscera have not changed much. In the treatment of peptic ulcer some old, once discarded operations have again become fashionable but with an important addition. I refer of course to gastro-enterostomy, pyloroplasty and gastroduodenostomy. Vagotomy is the added link, but I recall the elder Charles Mayo cutting and tying some of the vessels along the lesser curvature of the stomach and commenting that his object was to sever the branches of the vagus nerve that accompanied them. A selective vagotomy of sorts.

The language and mechanics of today's research are largely incomprehensible to the uninitiated. Abstruse machines with colored lights, dials and fancy knobs abound. Nearby each is a table cluttered with bits of wire, all sorts of oddments, and an array of implements which look like the discarded tools of a television repairman. To equate the equation does the operator turn one or more of the finely tooled dials on the machine? Of course not! He grasps a battered screwdriver from the disarray on the table and adjusts a barely visible screw, whereupon

the machine responds dutifully with the desired reading. But never mind the machines; look and listen to the men who build and command them. They are the adventurers and explorers of today. They are the mariners charting the still unknown seas of science. From cabin boy to captain there is a sparkle in their eyes and a quiet lilt to their voices as they tell you of their searches, their discoveries, and their vision of that final "breakthrough" which lies ever before them. Theirs that peak of human experience, the cry of the Ancient Mariner:

"We were the first that ever burst
Into that silent sea."

The residency training at the University of Oklahoma follows the principles and aims now established in all our large medical centers. Doctor Schilling states them clearly. They are worth repeating. "First, to develop the maturity and discipline that are the hallmarks of the trained and educated mind; second, to provide a means for the distribution of knowledge and the acquisition of skill; third, to serve as a stimulus for the exploration of the areas of ignorance and doubt. . . . A resident is, first of all, a man under authority, and he should act accordingly. This implies an obligation to honor hospital rules and regulations even when they appear to be disagreeable. It is a reminder that courtesy and respect for all other involved personnel are mandatory. It should not have to be added that permission to care for, and to operate on, a patient is a privilege, not a right." As nearly as it is possible to reach such ideals, Doctor Schil-

Gunther W. Nagel, M.D., received his M.D. degree from Stanford University in 1921. After internship he was a Fellow at the Mayo Clinic in Rochester, Minnesota for six years and during this time he was awarded an M.S. degree in Surgery from the University of Minnesota. Since 1929 he has practiced in San Francisco, California and is now Emeritus Professor of Clinical Surgery at Stanford University. He is the author of many scientific papers dealing with gastro-intestinal surgery. Now 70 years old, he continues to practice surgery while pursuing a great variety of other lifelong interests.

ling and his dedicated staff are attaining them.

Patients with a great variety of surgical conditions, both chronic and acute, are available in large number. The care given them is excellent at all levels of responsibility. This I know from direct observation during hours and days spent in the wards, clinics and operating rooms at the Oklahoma Medical Center. It was a delight to see the young surgeons operate, to watch them perform the duties of patient care in the wards, and to hear their gentle, firm and reasoned counsel to patient and relative. Always available in the wings was the seasoned judgment and assistance of members of the staff. Grand Rounds and bedside talks with senior staff members and residents were always delightful and informative.

Memory's kaleidoscopic images as departure nears—The old yet ever new drama of the operating room, where thought is transformed into action. The delight of total involvement in work one loves. The Departmental Secretary's cheery "good morning" with its assurance that all's right with the world. The heritage of the plainsman. Soft voices, sharp wits, the willingness to share.

Homespun humor. The Gilcrease museum in Tulsa; the drama of the pioneer west recreated in oil and bronze, so real one is a part of every scene. New friends with the comfortable feeling one has known them for years. The dilapidated but charming and unique Faculty House with its surpassing entourage. Tree lined streets and balmy nights. Visiting psychiatrists. Indians—proud, silent and a little disdainful. Oil wells; their new symbol, the automatic pump operating quietly and unattended in field and street and garden. Their discarded derricks, like yesterday's windmills rusting and sagging, their usefulness gone. The jar of man-made sonic booms and nature's scornful answer—the somber sky, the lightning chain, the crashing thunder.—The moment is here, "Fasten seat belt." Up with a roar into the big sky over Oklahoma.

To everyone: Thank you for the privilege of letting me share briefly in your problems, your triumphs, and above all in your joy of work well done.

GUTHER W. NAGEL

2550 Green Street, San Francisco, California

OSMA REGIONAL POSTGRADUATE COURSE

"The Small Intestine"

Lake Murray Lodge

Ardmore, Oklahoma

MARCH 23rd, 1965

AFTERNOON SESSION

- 4:30 p.m. Basic Science
(a) Structure
(b) Absorption
(c) Motility
- 5:30 p.m. Malabsorption Syndrome
Jack D. Welsh, M.D.
- 6:00 p.m. Diagnostic Methods in Small Bowel Disease
G. Victor Rohrer, M.D.

EVENING SESSION

- 7:30 p.m. Radiological Diagnosis in Disorders of the Small Intestine
Leonard E. Swischuck, M.D.
- 8:00 p.m. Problem Case Conference
Jack D. Welsh, M.D.
G. Victor Rohrer, M.D.
Leonard E. Swischuck, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category 1 Credit by the American Academy of General Practice

Progressing in Practice

TEACHING YOURSELF TO TREAT DIABETES MORE EFFECTVELY

You probably don't have time to read a recent authoritative and comprehensive tome on diabetes even though it would be desirable if you have diabetic patients. This is a disease involving a rapidly widening complexity of pathophysiologic and biochemical considerations. Here are a few suggestions on how to apply what the world knows about diabetes in your day-to-day practice without investing a prohibitive amount of time.

The editors hope this will be the first of a series of very short articles from the Medical Center on continuing *self-education*. Assumptions being made are that clinical learning is most relevant and long lasting when it directly concerns the patient for which the learner is responsible, that this process of self-renewal is an integral part of the process of superior clinical practice, and lastly, that most physicians can use some help in selecting from the massive literature a few key reference books and articles which are most likely to have immediate and important relevance to their practice.

So we are asking those who have a thorough familiarity with the clinical literature of a disease, or subspecialty, to provide in *The Journal* a brief consultative function for their fellow practitioners who are less familiar with this literature but who must accept responsibility for patients with this disease or group of diseases.

Now take diabetes for example. During the past year more than 3,000 articles have been written on subjects relating to diabetes and numerous books have appeared. The writer has not, of course, read all these but on the basis of a general familiarity the following suggestions are offered to the busy practitioner.

The tenth and most recent edition of E. P. Joslin's textbook, entitled, "Treatment of Diabetes Mellitus," appeared in 1959. Lea and Febiger of Philadelphia are the publishers. Although it is now six years old, the book is still very useful. A new edition is not expected in the immediate future. It

deals with all aspects of diabetes including pathophysiology, diagnosis and therapy. Probably every practitioner who has diabetic patients should own either Joslin's book or that of Williams (see below) or both as they are an excellent source of clinically relevant information on any one of many points which may arise in clinical practice. For example, when faced with a patient who may have diabetic neuropathy, one could review the relevant section in either text and thereby quickly become something of an authority on this aspect of diabetes while bringing the best of modern clinical knowledge to bear on the problem of the particular patient at hand.

Both the book of Joslin and of Williams have many contributors and both provide an excellent and comprehensive analysis of the basis of therapy as well as many practical suggestions on clinical matters. The volume edited by Williams was published by Paul B. Hoeber, Inc. of New York in 1960.

When it is appropriate to seek an even briefer summary of some aspect of diabetes, a very recent book can be recommended. In 1964 the American Diabetes Association (18 East 48th Street, New York) published a very inexpensive and brief summary of the major considerations in clinical diabetes. It also has many contributors and is edited by T. S. Danowski. This 203 page volume is entitled, "Diabetes Mellitus: Diagnosis and Treatment." The very brief summaries included are necessarily somewhat dogmatic but in general this book can be recommended. There is some information in this 1964 volume not contained in the earlier books of Joslin (1959) and Williams (1960).

Two of the most useful manuals for patients are those by Joslin (Lea and Febiger, Philadelphia, 1959) and by Danowski ("Diabetes as a Way of Life," Coward-McCann, Inc., New York, 1964). Both of these books could be perused with profit by most physicians. Portions of both manuals are a little too complicated for many diabetic patients but most diabetics should have one or the other since most of the material can be un-

derstood even by persons with limited education or intellect. Patients should also be encouraged to subscribe to the magazine, *Forecast* (two dollars annually) by writing to the American Diabetes Association, 18 East 48th Street, New York. A list of selected teaching reprints from *Forecast* are available from the same address as is "A Cookbook for Diabetics" (one dollar) which is popular with patients and wives of patients. A doctor who has this list of reprints can obtain or have a patient order instructional material at nominal cost (ten cents per copy or less) on almost any appropriate aspect of diabetes such as "The Diabetic Foot," "Insulin Reactions," "Traveling with Diabetics," "The Types of Insulin," etc.

These instructional materials for patients are mentioned because the major function of the physician in diabetes is to teach the patient how to apply the prescribed treatment.

Internists with a special interest in diabetes will probably want to scan or read two subspecialty journals: *Metabolism* and *Diabetes* but in the main these publications contain articles which although of scientific

importance, are of limited interest to most practitioners.

Books are probably the physician's most useful clinical instruments. The books mentioned above are tools of the trade in clinical diabetes.

I hope to persuade my colleagues in other specialties and subspecialties to write brief notes in *The Journal* concerning key clinical references in their specialties. But meanwhile if you wish advice pertaining to the selection of key reference books in any particular field call me, call on me, or write me at the Medical Center. The Department of Continuing Education in addition to its postgraduate courses and television programs is greatly interested in the physician's continuing self-education particularly as it relates to self-teaching in response to the problem of the patient at hand.¹ Consultation is also available concerning the establishment or revision of hospital libraries either small or large.—*Kelly M. West, M.D., Professor of Continuing Education, University of Oklahoma Medical Center*

1. West, K. M.: Role of the Library in Learning to Learn Clinical Medicine. *J. Med. Ed.* 39 (10): 910-917, October, 1964.

ABSTRACT

FOXGLOVE IN THE FIBERS

An ingenious study performed by Conrad and Baxter* has shown the migration and location of digoxin within the fibers of heart muscle, and related these sites to the contractile force of the heart. The technique of autoradiography was employed. Two experiments were performed using digoxin tagged with radioactive hydrogen (H^3). In the first, the drug was fed to rats three times weekly for two weeks, and two hours after the last dose, the heart was removed and sections of ventricular muscle were processed. In the second, thoracotomy was done on anesthetized dogs who were then maintained by means of a respirator. A strain gauge was attached to the free wall of the right ventricle in two of the animals to measure changes in contractile force and the digoxin was then given intravenously. Needle biopsies of the left ventricle were obtained serially and autoradiographs of the heart muscle specimens obtained from both the dogs and the rats were made. It was found that ten minutes after injection the digoxin was present along

the myofibrils, especially near the nucleus. After 30 minutes it was most concentrated in the A-bands and persisted there for about one and one-half hours. Thereafter it gradually disappeared, so that at the end of five hours none remained. Maximum contractile force of the heart coincided with the time there was maximum concentration of the drug in the A-band. Heart specimens from the rats which had received the drug over the two week period showed the greatest portion of the digoxin to be localized in the A-bands with a small amount along the cell membrane.

REVIEWER'S NOTE: This study confirms and amplifies a somewhat similar investigation by Tubbs, *et al.* (*Circulation Res.* 14: 236, 1964) who laundered out the major portion of the labeled drug when they sluiced their tissue specimens through the fixative and dehydrating alcohol baths necessary to cut the exceedingly thin slices required for electron microscopy. Even so, they managed to show localization of digoxin within the A-band. By using light microscopy, Conrad and Baxter were able to avoid this loss by taking advantage of the quick-freeze technique, and additionally obtained evidence to suggest that the drug exerts its greatest therapeutic action when it is within the A-band and along the cell membrane.

*Intracellular Distribution of Digoxin- H^3 in the Hearts of Rats and Dogs Demonstrated by Autoradiography and its Relationship to Changes in Myocardial Contractile Force. Loyal L. Conrad and Donald J. Baxter. *Journal of Pharmacology and Experimental Therapeutics* 145: 210-214 (August) 1964.

A Journey Through Diagnosis-Land

(with apologies to "Outdoor Life" magazine)

LOYAL L. CONRAD, M.D.

YOUR PROBLEM

You have been asked by a colleague to examine a 34-year-old Negro minister who complains of shortness of breath and chest pain. Possibly you will want to obtain further history, perform a physical examination and initiate certain laboratory tests. Choose your route-markers from those listed below. If you can make the diagnosis without further information, proceed to Junction 11. If not, go to Turnpike 5.

YOUR ROUTE-MARKERS

1. You may now look at the roentgenographic map of the chest (figure 1) and the electrocardiogram (figure 2). If the chest film shows left ventricular enlargement and normal pulmonary vascular markings, go to Route 7. If not, try Highway 4. If you interpret the electrocardiogram as showing left ventricular hypertrophy, you are correct. Now go to Route 7.

2. Quit now and start over again. You may choose either Road 3 or Freeway 10. The electrocardiogram is an essential part of the examination but is interpreted best in context with what else you know about the patient.

From the Department of Medicine, University of Oklahoma Medical Center, and the Medical Service, Veterans Administration Hospital, Oklahoma City, Oklahoma.

Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

3. The patient is dyspneic on exertion; his dyspnea is relieved by rest. He has had no attacks of nocturnal dyspnea. His chest pain is substernal, precipitated by exertion. If you believe his dyspnea is cardiac in origin, go to Freeway 10. If you don't know, try Interstate 6.

4. Look at the map again. If you're still not convinced, go to Route 7 anyway.

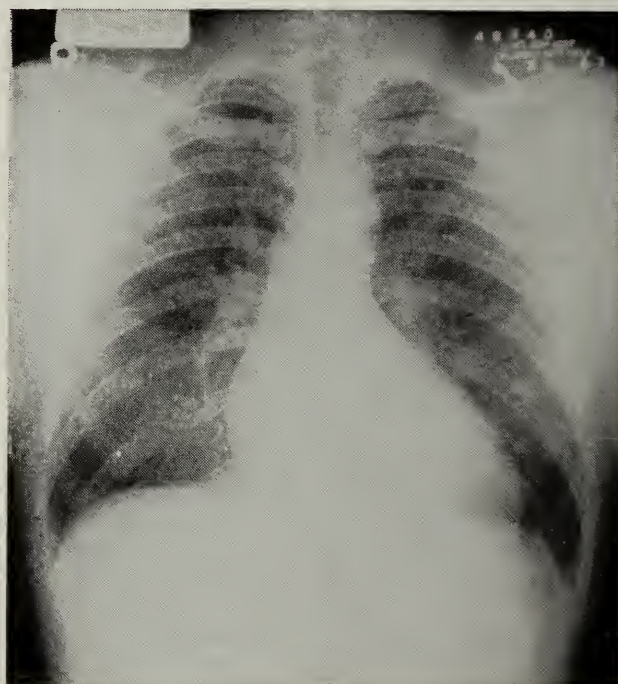


Figure 1. Roentgenogram of chest. No further changes were noted on subsequent examinations.

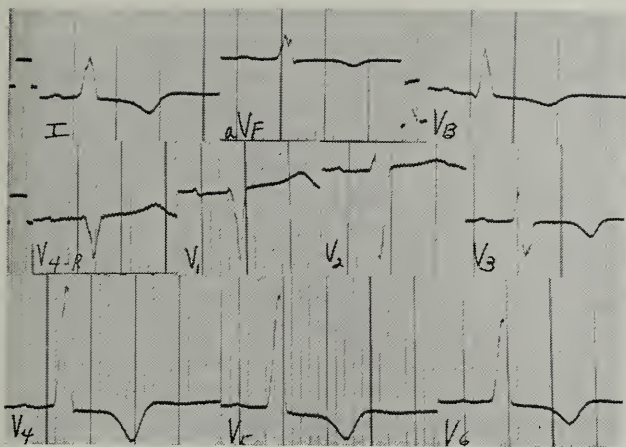


Figure 2. Electrocardiogram. The electrocardiographic changes noted here were unchanged on serial tracings obtained over a period of several months.

5. If you wish to obtain further history, go to Road 3. If you wish to perform physical examination first, go to Freeway 10. If you wish to peek at the electrocardiogram first, go to Roadblock 2.

6. Examination of the heart may provide a clue. If he has abnormal cardiac findings, notably enlargement and/or left ventricular hypertrophy (manifest by an apical thrust), his dyspnea is likely due to left ventricular failure. Now go to Freeway 10.

7. What else do you want to know? Blood pressure 140/70. Peripheral pulses? Normal. Past history? No rheumatic disease. If you have diagnosed idiopathic left ventricular hypertrophy, you are correct. Now try Toll Road 9.

8. The disease leads eventually to death due to congestive heart failure. Chest pain is present frequently; however, coronary atherosclerosis does not appear to be a causative factor. Digitalization is valuable in relieving the congestive failure symptoms temporarily. Now go to Thoroughfare 12.

9. Cardiac catheterization was performed to exclude aortic stenosis and left ventricular outflow obstruction. Neither was found. Idiopathic left ventricular hypertrophy is one of the groups of primary myocardial disease of unknown etiology. At times it may be familial in its expression. It is seen perhaps more frequently in the Negro race. For prognosis, see One-way 8.

10. On examination, the apex impulse was found to be forceful and lifting in character. It was located 2 cm lateral to the mid-clavicular line in the 6th intercostal space. A systolic ejection murmur, grade 1, was heard. There was no diastolic murmur. Atrial and ventricular gallops were audible. If you want to obtain further history now, go to Road 3. If not, go to Cross-Country 1.

11. You are playing a guessing game. Go to Turnpike 5.

12. You will enjoy reading "Idiopathic Myocardial Hypertrophy Without Congestive Heart Failure or Obstruction to Blood Flow" by Braunwald and Aygen in *The American Journal of Medicine*, vol. 35, p. 7, 1963. □

OSMA REGIONAL POSTGRADUATE COURSE

"THE BLOOD"

Western Sands Motel

Woodward, Oklahoma

MARCH 30th, 1965

AFTERNOON SESSION

- 4:30 p.m. Drug Induced Blood Dyscrasias
Richard A. Marshall, M.D.
- 5:15 p.m. The Treatment of Acquired Bleeding Disorders
James W. Hampton, M.D.

EVENING SESSION

- 7:30 p.m. Iron Deficiency Anemias
Walter Whitcomb, M.D.
- 8:15 p.m. Problem Case Conference
James W. Hampton, M.D.
Richard A. Marshall, M.D.
Walter Whitcomb, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category 1 Credit by the American Academy of General Practice

Public Favors Eldercare Over Medicare

Despite President Johnson's feeling that he has a mandate to pass the Medicare Tax Bill, the vast majority of Americans either do not understand the bill or, if they do know of its provisions, they strongly favor the AMA's alternative Eldercare Bill.

It is this mushrooming public reaction which has fired the efforts of medical societies across the nation to conduct all-out public information campaigns on the Medicare-Eldercare issue.

OSMA President Harlan Thomas says: "We are not foolishly optimistic about our chances of getting Eldercare legislation through the Congress, but we do know that we have a good chance if the public can be well-informed during the limited time left. When the public understands the issue, they rally to our cause, and public opinion is then translated into Congressional votes against Medicare and for Eldercare."

Doctor Thomas' attitude toward the need for an informed public is supported by the findings of a recent Gallup Poll which revealed that 77 per cent of the population knows nothing about the Medicare Tax Bill or wrongly believes that it will provide medical services as well as generous hospital and nursing home benefits.

Medicare Facts

The Administration's Medicare Tax Bill would provide limited benefits to all persons over age 65 regardless of their financial condition, financed through a payroll tax on all workers and employers through the Social Security system.

Benefits include:

—60 days' hospital care subject to a deductible of about \$40.00.

—60 days' nursing home care following transfer of the patient from a general hospital.

—Hospital outpatient diagnostic services, subject to a \$20.00 deductible each month.

—Visiting nurse services to patients at home.

Participating hospitals would have to have contracts with the federal government, and would be subject to federal audit of financial records and administrative procedures. Doctors would be required to form government-supervised utilization review committees. Both doctors and hospitals who fail to meet government tests of performance would be publicly exposed through newspaper announcements and/or through other forms of federal admonishments or punishments.

Eldercare Offers Better Care

The rival AMA-sponsored Eldercare Bill, H.R. 3727, is basically an extension of the existing Kerr-Mills Act.

Through a federal-state matching funds program, state governments would be authorized to design, control and implement their own, more generous, plans to provide health care for the elderly. A state government agency would simply make arrangements for health insurance policies for qualified persons over age 65.

Benefits include payment for medical and surgical costs, hospitalization, nursing home care, and outpatient drugs.

According to state-determined standards of income, persons with incomes below a certain level will have their entire health insurance premiums paid in full by government funds; persons with middle-bracket incomes will share the premium costs

with the government; and, persons who are well-to-do or wealthy will have the same non-cancellable policy offered to them but will be expected to pay their own premiums. Eligibility for the three categories of beneficiaries will be determined by a simple statement of annual income.

Eldercare offers more benefits to the elderly than does Medicare, but it will cost less because government participation will be limited to persons in need on a sliding scale basis.

Moreover, as the financial status of retired persons improves from year to year, government expenditures for the needy will become less and less. On the other hand, the Medicare Tax Bill is built for growth. It offers too little to the needy and too much to the self-reliant, and a clamor will soon arise to expand the benefits across the board.

Young taxpayers will complain about the high cost of Medicare, and pressure will be brought to bear for lowering the age limit for eligibility.

Campaign '65

The Oklahoma State Medical Association has joined other state medical societies and the AMA by inaugurating a crash public information program on the relative merits of Medicare and Eldercare.

At a February 21st conference of county medical society officers, Doctor Rex Kenyon's Council on Public Policy kicked off a program called "Campaign '65." Headlining the program speakers was AMA President Donovan Ward, Dubuque, Iowa.

80,000 Letters

"Campaign '65" has two basic divisions.

First, all state doctors and their wives are being asked to produce at least 20 letters each to the Congressman from their district. The target date for completion of this project was set for March 15th. If all medical people act with individual responsibility, at least 80,000 letters will be sent to Washington by Oklahomans who know right from wrong on the issue.

Secondly, the OSMA has established "Campaign '65 Captains" in more

than 50 principal cities of Oklahoma, and has furnished them with kits containing special project ideas with which to supplement the basic letter-production quota assigned to individuals. The special projects include obtaining resolutions from allied organizations, enlisting the help of other groups and individuals in the letter-writing program, making speeches to local organizations, establishing good press relations locally, holding neighborhood coffees, etc.

Original "Campaign '65" plans also called for OSMA purchase of advertising space in selected state newspapers, a television debate on the subject, the distribution of handbills in selected cities, a Congressman-Contact program both at home and in the nation's capitol, and extensive statewide publicity by sending special press kits to all newspapers and radio and television stations.

Education Program Expanded

No sooner had the public information program been launched when there was mounting physician-pressure to expand the program beyond the limits of the OSMA budget.

The Oklahoma County Medical Society took the initiative to approve a \$25.00 per member assessment to purchase advertising space in city newspapers as well as radio and television time. Tulsa County, and others, began collecting voluntary contributions to beef up the OSMA effort by local promotions.

Assessment

A special meeting of the OSMA House of Delegates was called for February 28th to consider the acquisition of additional funds to bolster the OSMA "Campaign '65" public education program.

As a result of this meeting, an assessment of \$15.00 per state association member was approved. Notices of this assessment have been sent to all state physicians.

The new funds raised by the assessment will be used to intensify the OSMA's use of radio, television and newspaper advertising. In addition, an extra 100,000 Medicare vs. Eldercare folders have been printed for

distribution on a statewide basis. The original plans for handbill distribution have been expanded to cover many other cities, and a large delegation of doctors and laymen will be transported to Washington to meet with the Oklahoma Congressional Delegation on March 15th.

Other state medical societies have also passed special assessments to meet the emergency, such as Maryland which recently voted a \$140,000 assessment on its 2,800 members.

Doctor Thomas expresses hope that Oklahoma physicians will remit the \$15.00 right away, "since the financial need for improving our public information efforts will not wait."

Individual Effort

Notwithstanding the improved financial ability for the OSMA to employ greater use of radio, television and newspaper advertising, Doctor Thomas still believes that "our basic hope of success rests with our sense of individual responsibility to produce letters to Washington from our friends, patients and acquaintances.

"The end result of everything we are doing is to create a groundswell of public reaction to the issue, and most people can only be motivated to write a letter at the personal request of a physician or his wife." □

AMA Delegates Support Eldercare Bill, Reaffirm Principles

Meeting in a two-day special session in Chicago to review current health care legislation, the House of Delegates of the American Medical Association gave unanimous approval and support to the AMA Eldercare Program and to the Herlong-Curtis Eldercare bill (H.R. 3727), which embodies the basic principles of the AMA program.

In acting upon six resolutions and reports from the AMA Board of Trustees, Council on Legislative Activities and Council on Medical Service, the House of Delegates also:

1. Reaffirmed its opposition to the King-Anderson bill (H.R. 1 and S. 1) and all similar measures;

2. Commended the Board of Trustees and its Task Force for implementing and funding a program of public education on the AMA Eldercare Program and gave them a standing vote of confidence;

3. Called for study of the "desirability and feasibility of extending the principle of federal and state aid under the Kerr-Mills principle to persons below the age of 65 who need help";

4. Adopted a statement on Standards for Health Care Programs, and

5. Urged that the professional services of pathologists, radiologists, psychiatrists and anesthesiologists should be excluded from the provisions of any bill which excludes other physicians' services.

AMA Eldercare Program

First announced on January 9th by AMA President Donovan F. Ward, at the Association's Kerr-Mills Conference in Chicago, the AMA Eldercare Program would encourage the use of voluntary health insurance or prepayment plans in the implementation of Kerr-Mills programs, permit the state to have a health-oriented agency supervise or administer the program, provide for use of an income information statement as the sole eligibility test of need, and provide for a wide spectrum of medical, surgical and hospital benefits with sliding-scale eligibility so that a citizen 65 and over would pay all, part or none of the cost of the insurance or prepayment policy, depending on his income.

The Eldercare Bill

These principles are incorporated in the Eldercare Act of 1965, introduced on January 27th by Representatives A. Sydney Herlong, Jr., (D., Fla.) and Thomas B. Curtis (R., Mo.), amending the Kerr-Mills law to authorize broad health insurance coverage for elderly persons.

The Herlong-Curtis bill would authorize federal grants to the states on a matching basis to help persons 65 years of age and older pay the costs of the health insurance or prepayment policy if they could not afford it otherwise. The bill would pro-

vide for utilization of Blue Shield and Blue Cross plans and private health insurance companies.

The cost of such coverage would be borne entirely by government for those elderly individuals whose income falls below limits set by each state. For individuals with incomes between the minimum and a maximum, government would pay a part of the cost on a sliding scale according to income. Individuals with income above the maximum would pay the entire cost, but they would have the benefits of an income tax deduction for such payments.

Persons under 65 years of age also would be given an income tax deduction for the amount of premiums paid on health insurance policies for elderly relatives.

Doctor Ward's Address

Condemning the King-Anderson bill and urging support of the Eldercare program, Doctor Ward told the House on the first day of the Special Session:

"Are 200,000 doctors wrong in urging the Congress to give serious consideration to the one measure now before it that offers genuine medical and hospital benefits to the needy aged? This is a bill authored neither by the Republican party nor the Democratic party. It is a bill with bipartisan parentage—the Herlong-Curtis Eldercare bill, numbered H.R. 3727. We urge Congress to compare, and the people to compare, this bill with its genuine benefits and realistic financing—and with its provision allowing for administering a health program through health agencies of the states—to compare it feature-by-feature with Medicare.

"If the drums can be stilled long enough to make this comparison, it will be found that the Herlong-Curtis Eldercare bill can cover not only the cost of hospital care and nursing homes for the aged, but also payment of physicians and surgical and drug costs—which Medicare would not do."

Doctor Ward declared that "it is never too late to pass good legisla-

tion and defeat bad legislation. The one thing in this historic decision—the only thing—that may truly come too late, is regret."

Education Program

Doctor Percy E. Hopkins, Chairman of the Board of Trustees, reported to the House that the AMA's current effort to tell its story to the people and to the Congress is being financed through the allocation of a portion of the association's reserve fund. In response to a number of questions raised during the open discussions, the delegates also were told that the education program will not require a dues increase or a special assessment. The program will be national in scope—involving magazines, radio and television—but maximum grass roots effort was urged upon the entire AMA membership and the Woman's Auxiliaries.

Health Care Legislation

Declaring that "it is essential that the position of the AMA be made clearly apparent while at the same time remaining responsive and flexible in legislative developments," the House passed a resolution reaffirming earlier positions established on federal medical care programs.

Specifically included was the reaffirmation of the policy established by the House of Delegates at the 1964 Clinical Convention, which urged component associations to stimulate state and local governments to seek the fullest possible implementation of existing mechanisms, including the voluntary health insurance principle, to the end that everyone in need, regardless of age, is assured that necessary health care is available.

The House defeated a motion that "a medical and hospital service plan with minimum benefits specified, one and the same across the nation from the point of view of the benefits offered, be prepared to accompany H.R. 3727" (the Herlong-Curtis Eldercare bill).

The House tabled that portion of the Reference Committee on Legislation and Public Relations Report dealing with Resolutions No. 3 and No. 5, both of which called for the AMA to

propose legislation which would extend health insurance coverage to all needy persons regardless of age.

In considering this proposal, the House adopted Resolution No. 7, introduced by California, one portion of which asked that "the AMA Board of Trustees, the Council on Medical Service and the Council on Legislative Activities (a) study the desirability and feasibility of extending the principle of federal and state aid under the Kerr-Mills principle to persons below the age of 65 who need help and (b) report their recommendations as early as possible to the AMA Board of Trustees and House of Delegates as a basis for formulation of future AMA policy in this regard."

After adopting the California resolution, the House voted not to "lift from the table" the portion of the Reference Committee Report dealing with Resolutions No. 3 (Indiana) and No. 5 (Michigan).

Standards for Health Care Programs

The House adopted the following principles as essential to sound health care programs:

1. No person needing health care shall be denied such care because of inability to pay for it.
2. It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.
3. Every level of government (municipal, county, state and federal) should assume a responsible share in the financing of such programs.
4. The health care provided by such programs should be adequate and should be equal in quality to that available to those who can afford to pay.
5. Maximum use should be made of voluntary prepayment and insurance mechanisms.
6. Administration of such a program should be the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.

7. Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.

8. Any such health care program should provide funds only, and not direct services.

9. Funds for such programs should come from general tax revenues and not from Social Security taxes.

Medical Service Report

In approving the report of the Council on Medical Service, the House adopted the following statement:

"The Council believes it is important for the profession to note that, while suggested mechanisms for providing health care to the needy have changed as the nation's social and economic structure has changed, the basic underlying concepts of the American Medical Association, upon which our policy statements have been made, have not changed.

"While the Council is concerned with the availability and accessibility of health care for all citizens, it has long recognized that certain groups have health problems disproportionate to those of the general population. Included are the impoverished of all ages—the mother and newborn, the crippled child, the blind, the mentally ill, the mentally retarded, the long-term chronically ill, the physically disabled, and the aged." □

Regional Physical Fitness Clinic To Meet in Fort Worth

The President's Council on Physical Fitness will hold a South Central Regional Clinic at the Hotel Texas in Fort Worth, Texas, April 30th-May 1st, 1965.

Purpose of the two-day meeting is to interpret the recommendations of the council and provide information on effective ways to increase the fitness of youth and adults.

Subjects Outlined

Topics to be discussed during the clinic will be: Recent Research Find-

ings on Physical Fitness; Demonstration: Continuous Rhythmical Exercise; Demonstration: Circuit Training, Physical Fitness, Screening Tests, Weight Training, Conditioning, Exercises, Isometric Exercises and Aquatics; and Boys and Girls Physical Education Demonstrations, Discussions and Films, Recreation and Adult Fitness Programs and Gymnastics.

Speakers Named

Several nationally known speakers will be featured during the program. They are: Thomas K. Cureton, research scientist from the University of Illinois; Stan LeProtti, originator of the famed LaSierra High School Program and "The School Where Fitness Counts," *Reader's Digest*, September, 1964; Muriel Grossfeld, three-time U.S. Women's Olympic gymnastic team member; C. Carson Conrad, special advisor to the President's Council on Physical Fitness; Joan Sullivan, Portland Community Junior College; Simon A. McNeely and Glenn V. Swengros, President's Council on Physical Fitness.

A banquet for all those attending the clinic will be held on Friday evening, April 30th. □

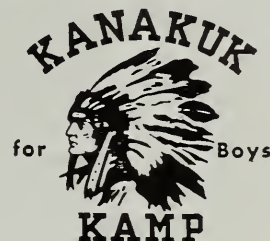
OU College of Pharmacy To Present Public Forum

The University of Oklahoma's College of Pharmacy will sponsor a public lecture on April 22nd, 1965 in the Forum Room at the Oklahoma Center for Continuing Education in Norman. Time of the meeting will be 8:15 p.m.

Speaker for the evening will be an internationally known speaker and author, Doctor Chauncey D. Leake whose subject will be "The Growing Ethical Problems of the Health Professions."

The author of eight books and editor of several medical and science periodicals, Doctor Leake has taught in several of the nation's leading schools and has held important government positions. □

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OSMA Mental Health Conference Attracts 1,000

More than 1,000 Oklahomans attended an important statewide conference on mental health and retardation at Oklahoma City's Skirvin Tower Hotel on February 4th. The one-day program was sponsored by the Oklahoma State Medical Association.

According to the conference planner, Doctor Hayden H. Donahue, Norman, the purpose of the meeting was "to appraise the growing medical, economic, social and jurisdictional problems of mental health in Oklahoma, with a view toward developing a realistic program and coordinated effort."

Registrants for the conference included members of the Oklahoma Legislature and representatives from a variety of professional, private and governmental organizations sharing the common interest of improving the state's mental health program. In addition, private citizens from all walks of life participated, Donahue reported.

The medical association's program featured an illustrious cast of speakers, including top officials from the state and federal governments, as well as professional mental health leaders of national stature.

Governor Henry Bellmon, Senator

Clem McSpadden, President Pro Tempore of the Senate, and Representative J. D. McCarty, Speaker of the Oklahoma House of Representatives, represented the executive and legislative branches of state government.

Stafford L. Warren, M.D., Special Assistant to the President of the United States on Mental Retardation, discussed Oklahoma's improved program for the care of the mentally retarded.

Milton Greenblatt, M.D., Superintendent of the Boston, Massachusetts State Hospital, talked on modern methods of mental health treatment and the future outlook for the care of the mentally ill.

Hamilton F. Ford, M.D., Galveston, Chairman of the American Medical Association's Council on Mental Health, previewed the future national outlook for mental health programming of all types.

Bertram S. Brown, M.D., Bethesda, Maryland, Director of the Community Mental Health Services Division of the National Institute of Mental Health, discussed the topic of mental health service planning for communities.

The Oklahoma State Medical Association's priority program for mental health improvement was presented by George H. Guthrey, M.D., chairman of the association's mental

health committee. The medical doctor's policy statement, termed "New Action For Mental Health In Oklahoma," was developed following a statewide conference last year where physicians consolidated their thoughts regarding major aspects of mental health problems.

The medical association policy statement has been widely acclaimed by professional and governmental groups for its comprehensiveness.

Findings of a two-year survey on Oklahoma's mental health needs were revealed on February 4th by John D. Griffith, M.D., mental health director of the State Health Department.

Other speakers sharing the conference platform were: Albert J. Glass, M.D., State Director of Mental Health; Chester A. Pierce, M.D., Chief of Psychiatry, Oklahoma City's Veterans Administration Hospital; James Dunagin, M.D., Department of Public Welfare; Kirk T. Mosley, M.D., State Commissioner of Health; Frank L. Adelman, M.D., President of the District Branch of the American Psychiatric Association; Louis J. West, M.D., Chief of Psychiatry, Oklahoma University Medical Center; Harlan Thomas, M.D., President of the Oklahoma State Medical Association; and, Bruce G. Carter, Ed.D., President of the Oklahoma Association for Mental Health. □

Over 1,000 Oklahomans gathered in the Persian Room of the Skirvin Tower Hotel, February 4th, to hear state and national authorities on the program of the OSMA's Statewide Conference on Mental Health and Retardation.



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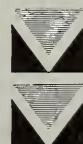
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william r. garretson, m. a.

Annual Meeting Program Completed

Twelve nationally known medical personalities will appear as visiting distinguished guest speakers for the 59th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 14th-16th.

Meeting for the first time in Tulsa's beautiful new multi-million dollar Assembly Center, an estimated 750 Oklahoma doctors will hear scientific papers by the following:

Paul Black, M.D., National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland.

David H. Carr, M.D., Professor of Medicine, University of Western Ontario School of Medicine, London, Ontario.

Ferdinand E. Greifenstein, M.D., Chairman of the Department of Anesthesiology, University of Arkansas School of Medicine, Little Rock, Arkansas.

Hans Hecht, M.D., Professor of Medicine, University of Chicago School of Medicine, Chicago, Illinois.

Allen R. Hennes, M.D., Professor of Medicine, Wayne University School of Medicine, Detroit, Michigan.

Paul B. McCleave, LL.D., Director of the Department of Medicine and Religion, American Medical Association, Chicago, Illinois.

Roger S. Mitchell, M.D., Associate Professor of Medicine, University of Colorado School of Medicine, Denver, Colorado.

Laurence L. Robbins, M.D., Professor of Radiology, Harvard University School of Medicine, Boston, Massachusetts.

John S. Stehlin, Jr., M.D., Associate Surgeon, University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas.

Donovan F. Ward, M.D., President, American Medical Association, Duquaque, Iowa.

Elton Watkins, M.D., Associate Professor of Surgery, Harvard University School of Medicine, Boston, Massachusetts.

Alexander H. Woods, M.D., Professor of Immunology, University of Arizona School of Medicine, Tucson, Arizona.

OSMA members who will appear on the program are Doctors Paul T. Condit, Allen Greer, H. N. Kirkman and Sidney Traub of Oklahoma City, and Doctors Lucien Pascucci, Walter E. Brown, Albert L. Shirkey and Ernest S. Kerekes of Tulsa.

The scientific program is divided into a series of seminars in radiology, clinical medicine, cardiac arrhythmias, cancer chemotherapy, and pulmonary diseases. Each session will emphasize progress in diagnosis and treatment.

Special features will include the Peter E. Russo Memorial Conference on Medicine and Religion, an event of Saturday afternoon, May 15th, and a Medical-Legal Seminar on Sunday morning, May 16th.

Guest speakers will meet in roundtable discussions at a special luncheon meeting on Saturday, May 15th.

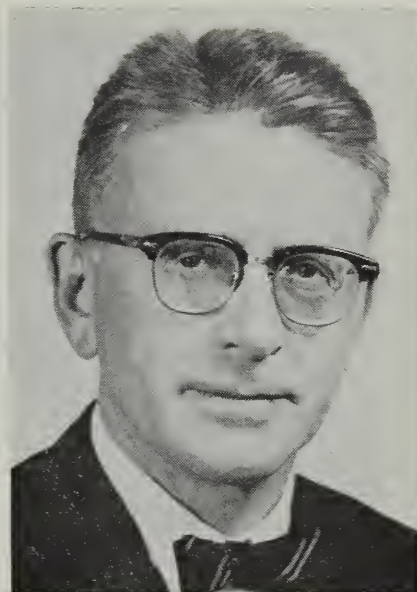
Oklahoma doctors are urged to write directly to the headquarters hotel, The Mayo, Box 2101, Tulsa, for accommodations. Please state date and time of arrival and type of accommodations desired.

The President's Inaugural Dinner Dance will be Saturday evening, May 15th, in the Crystal Ballroom of The Mayo. Tickets are \$7.50 per person and may be ordered in advance by writing Convention Headquarters, Oklahoma State Medical Association, 104 Utica Square Medical Center, Tulsa. Checks should be made payable to Oklahoma State Medical Association. Tickets will be mailed.

The Inaugural Dinner Dance, featuring the inauguration of Doctor Rex E. Kenyon of Oklahoma City as OSMA President, will open with a social hour at 6:30 p.m. A buffet dinner, with a choice of meats, vegetables, salads and desserts, will follow at 7:30 p.m.

Special entertainment at the dinner dance will feature the Bison Glee Club of Oklahoma Baptist University, Shawnee, and two talented soloists, Ted Harris and Nancy Montgomery. Dancing to the music of Marjean Fox and Her Orchestra begins at 9:00 p.m.

The price of \$7.50 per person for the dinner dance includes the social hour cocktails, buffet dinner, inagu-



ROGER S. MITCHELL, M.D.



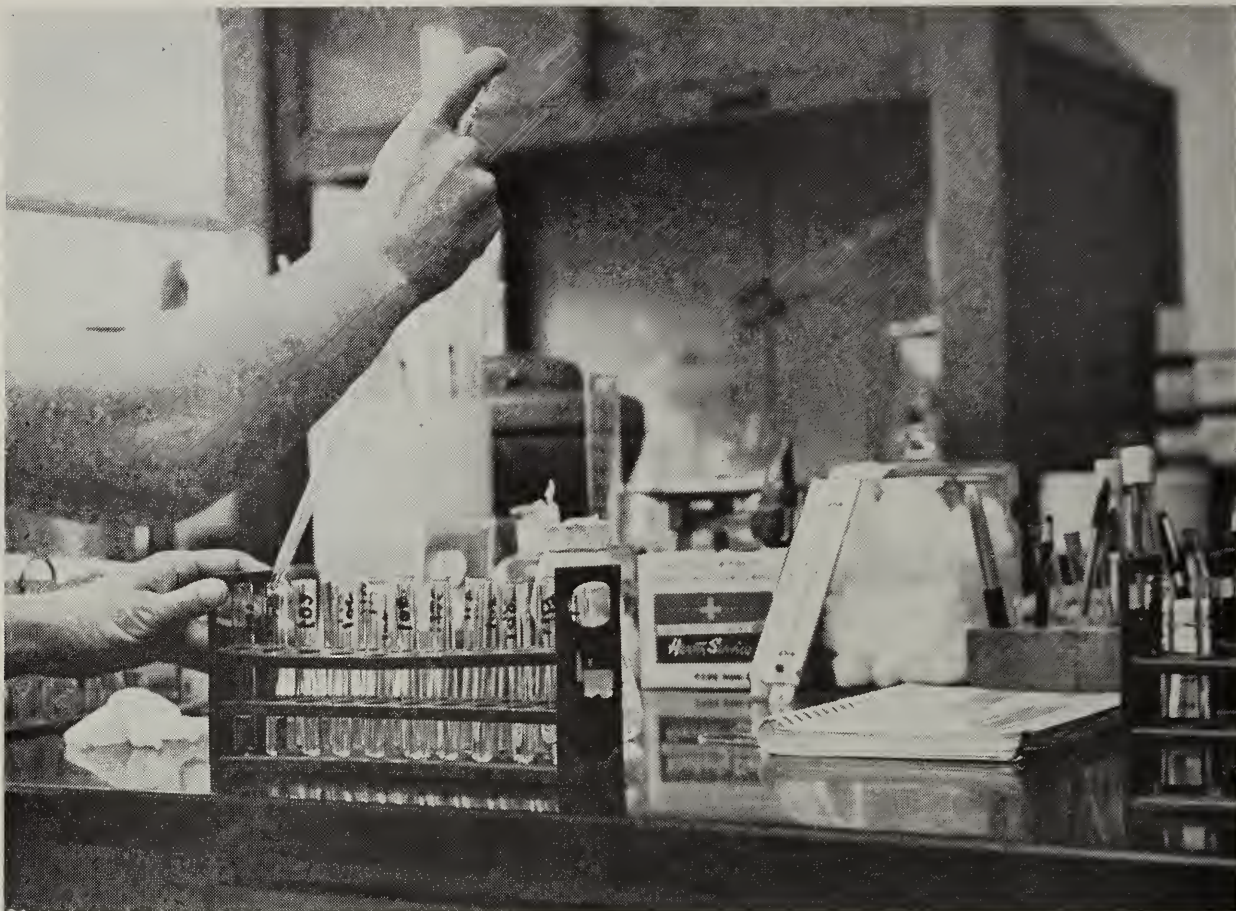
JOHN S. STEHLIN, JR., M.D.

ral ceremonies, entertainment, dance and set-ups.

All sessions of the '65 annual meeting will be in the Tulsa Assembly Center. Thirty-four technical exhibits, as well as numerous scientific exhibits, will be located immediately adjacent to the general meeting rooms.

A complete program will appear in the April issue of The Journal.

Doctor Howard A. Bennett of Tulsa is General Chairman of the 59th Annual Meeting, assisted by Doctors Donald L. Brawner, C. S. Lewis, Jr., Walter E. Brown, Thomas W. Taylor, Dave B. Lhevine, Irwin H. Brown, William M. Benzing, Jr., John W. Gaddis, and Jerry Sisler. □



Good Health Is for Everyone

Good health is not an accidental favor that is bestowed upon a few individuals . . . it is a blessing, earned through years of research by a dedicated medical profession, to be shared by all people.

By striving to provide better medical treatment and facilities for the individual members of our society, medical science is succeeding in providing better health for everyone.

And so it is with Oklahoma's Rural Electric Cooperatives.

Low-cost electricity furnished by the REC to rural Oklahoma enables the state's food and fiber producers to work more efficiently and to provide all Oklahomans with more and better

food and clothing at lower prices.

REC electricity brings modern conveniences to many rural churches, consolidated schools, recreation areas and small business establishments located far from other power sources—such as service stations and roadside restaurants—that contribute so much to the comfort and well-being of all Oklahomans.

Through remote microwave relay stations, REC power provides improved long-distance telephone service and helps all Oklahomans to be educated and entertained by television.

So, by helping a large segment of our state's population, Oklahoma's Rural Electric Cooperatives are actually benefitting all Oklahomans.

One of Oklahoma's Great Tax-Paying, Free Enterprise Businesses . . .



OKLAHOMA RURAL ELECTRIC COOPERATIVES

49 Legislative Proposals Under Study By OSMA State Legislative Committee

In less than eight legislative weeks since the 30th Oklahoma Legislature opened for business on January 5th, the newly reapportioned lawmakers have introduced in excess of 559 bills. The Senate, as of February 26th, had introduced 210 bills, while the House drafted 349.

The Oklahoma State Medical Association, functioning through its State Legislative Committee, is working hard to keep pace with the many proposals. Of the bills introduced to date, the OSMA has reviewed a total of 49.

Most of the bills before the House and Senate are clearing committees relatively faster than they did two years ago during the 29th Session. The major appropriations bills, however, are being log-jammed in committees awaiting some type of word as to whether the one per cent sales tax increase proposal will be submitted to a vote of the citizens. Political observers predict the measure will be placed on the ballot April 27th.

Since the opening of the Session, the Oklahoma State Medical Association and the Oklahoma Branch of the American Academy of General Practice have supplied the legislators with a physician daily and with an emergency treatment room.

Moreover, the OSMA State Legislative Committee held a recent get-acquainted dinner between members of the House Social Welfare and Public Health Committee and members of the association.

Bills of Concern to OSMA

The OSMA State Legislative Committee has been actively involved since early December gathering reference or resource information in order to better cope with proposals of concern to medicine.

Any member of the OSMA may secure detailed information on the following bills by writing or contacting the OSMA Executive Office. The Committee has reviewed the following legislative measures and has taken corresponding action as indicated:

Senate Bills

SB 2—Rhoades—Purchase of ambulances by mental hospitals. OSMA: No action.

SB 12—Williams—Eliminating exclusion of chronic alcoholism from definition of mentally ill person. OSMA: Approved. Governor signed.

SB 15—Murphy—Requiring passenger motor vehicles beginning with 1966 models be equipped with safety belts or harness. OSMA: Approved.

SB 18—Garrison—Mandatory reporting by medical personnel and institutions of physical abuse to children. OSMA: Legislative Committee concurs in amendment striking punishment.

SB 19—Romang—Chemical tests for drivers of motor vehicles who are believed under influence of intoxicating liquor. OSMA: Action pending.

SB 21—Murphy—Providing judge of county court may perform duties of medical examiner. OSMA: Action pending while awaiting rewriting of bill.

SB 22—Murphy—Authorizing disavowal of agreement concerning release in any personal injury case within year. OSMA: No action.

SB 72—Payne—Relating to estoppel of employer to deny employment of employee in hazardous employment; adding own risk carriers and self insurers. OSMA: No action.

SB 86—Graves—Appropriating to State Board of Health, \$100,000 for biennium for detection of phenylketonuria and other inborn metabolic disorders. OSMA: Approved so long as used for education.

SB 87—Graves—Directing State Board of Health to provide educational program on detection of phenylketonuria and other inborn metabolic disorders of newborn infants and, in the public interest, physicians administer tests routinely for detection of same. OSMA: Committee supports principle, but recommends that parents be held at least equally responsible for welfare of their children.

SB 101—Garrison—Authorizing State Board of Pharmacy to remove specific compounds, mixtures or preparations from category of excepted items. OSMA: No action.

SB 110—Garrison—Exempting drugs, medicines, agricultural fertilizers and seeds from consumers sales tax. OSMA: No action.

SB 115—Graves—Making provisions on operator's certificates, sewage and waterworks, applicable in all cities and towns. OSMA: Committee concurred.

SB 120—Martin—Defining air pollution and air contaminants; vesting authority for enforcement in Department of Public Health. OSMA: Approved.

SB 121—Gee—Providing penalty for child molestation; making act applicable to males over 16 years of age and females over 18 years. OSMA: Approved.

SB 134—Grantham—Authorizing voluntary admission to state and private mental hospitals of persons 16 to 21 years of age upon consent of parent or guardian. OSMA: Under consideration.

SB 143—Hamilton—Defining "physical therapy" and authorizing licensure and regulation of therapists. OSMA: Approved.

SB 176—Stansberry—Authorizing employees of city-county health departments to participate in retirement system. OSMA: Under consideration.

SB 177—Murphy—Amending laws relating to examination and license fees in practice of optometry and listing any exceptions. OSMA: Under consideration.

SB 195—Smith—Relating to narcotic drugs and including drugs governed by federal laws and those by the State Board of Health; extending provisions of such section to duly licensed physicians or retired commissioned officers of the armed forces or public health service employed on such ships or aircraft. OSMA: Under consideration.

SB 204—Young—Requiring a copy of report of examination by practitioners of healing arts to be furnished person examined upon demand. OSMA: Under consideration.

SB 205 — Stansberry — Authorizing State Board of Medical Examiners to register without examinations certain foreign-trained doctors for limited practice in state owned hospitals. OSMA: Approved.

House Bills

HB 502—Page—Authorizing precare and aftercare services in mental health department. OSMA: Approved.

HB 503—Morrow—Authorizing payment to patients within mental health institutions. OSMA: No action.

HB 509 — McCune — Providing for care and treatment of sexually dangerous persons. OSMA: Action pending.

HB 516 — Sandlin — Changing composition of members of the State Hospital Planning Advisory Council. OSMA: Approved amendment.

HB 540—Blankenship — Exempting from sales tax certain medicines and agricultural products. (Similar to SB 110). OSMA: No action.

HB 574—Privett — Amending Good Samaritan Act, limiting liability for negligence of nurses, as well as others, for emergency care at scene of accident. OSMA: Approved.

HB 579 — Spearman and Drake— Authorizing physicians, and other professional persons to report physical abuse or injuries to children under 17 years of age to department of public welfare or police; directing a follow up investigation by police; granting persons reporting in good faith immunity from civil or criminal liability and, waiving privilege of doctor-patient relationship against disclosure of facts concerning condition of child. (Similar to SB 18). OSMA: Legislative Committee initiated this bill as being in the public interest and allowing discretionary reporting, instead of mandatory.

HB 625—Finch—Allowing payments of \$50 per week for temporary and total disability. OSMA: No action.

HB 650—Finch—Providing for regulation of non-profit medical and dental indemnity, or hospital insurance. OSMA: Under consideration and study.

HB 663—Willis—Biennial appropriation of \$50,000 annually to State Department of Health for administering the functions of the Board of Unexplained Deaths. OSMA: Legislative Committee encourages an appropriation of approximately \$98,000 per year to properly execute functions of Medical Examiner's system.

HB 667—Mountford—Providing for labeling of accident and health insurance policies; listing any exclusions found in the policy on the face of the policy. OSMA: Approved.

HB 677 — Roselle — Including garbage, sanitation, fire departments as hazardous employment. OSMA: No action.

HB 682—Abbott—Appropriating to State Department of Health \$50,000 per year for the establishment of regional guidance centers. OSMA: Under consideration.

HB 685—Finch—Permitting injured workers to select their own doctor under certain circumstances in Workmen's Compensation cases. OSMA: Under consideration.

HB 690—Smith—Providing for protection of parent-child relationship; providing for termination of parental rights; permitting a court to act to protect health and welfare of child and, preventing adoption of child until decree terminating parental rights has become final. OSMA: No action.

HB 692—Drake (House) and Stansberry (Senate) — Increasing fee charged applicants for examination and re-examination in basic sciences; increasing fee charged by State Board of Medical Examiners and Board of Examiners in Basic Sciences for certificate of reciprocity. OSMA: Approved.

HB 693—Drake (House) and Stansberry (Senate)—Providing for certain qualifications of applicants for admission to examination for licensure to practice medicine and surgery in Oklahoma; providing for qualification of schools of graduation of applicants and requiring internship training. OSMA: Approved.

HB 694—Drake (House) and Stansberry (Senate)—Providing for staggered terms for members of State Board of Medical Examiners; pro-

viding for election of officers thereof; and making the newly created State Board of Medical Examiners successor to present board. OSMA: In May, 1964, the OSMA House of Delegates approved and encouraged initiating legislation to establish membership on staggered terms as embodied in this bill.

HB 702 — Mountford — Amending Workmen's Compensation by including service station employees and salaried firemen in category of hazardous employment. OSMA: No action.

HB 719—Cox — Authorizing voluntary admission to state and private mental hospitals of persons 18 to 21 years old. OSMA: Under consideration and further study.

HB 725 — Townsend — Exempting from consumers sales tax, gross receipts derived from sales of prescriptions. OSMA: No action.

HB 808 — Mountford — Amending mental health laws to authorize county judges of petitioner's residence to apply for restoration of competency. OSMA: Under consideration.

HB 839—Cole—Providing for selection of person to administer treatment to an injured employee by such employee or another on his behalf; providing person so chosen shall be licensed to treat human ills or injuries under Oklahoma law, with one exception; providing notice to employer of treatment; providing for change of physician when necessary for health and well being of employee. OSMA: Under consideration.

HB 848—Poulos—An act relating to poor persons; establishing responsibility of certain relatives for their support; providing minimum and maximum amounts of contribution; providing for administration by Department of Public Welfare; providing for civil penalties; making assistance programs unaffected by failure of contributions. OSMA: Under consideration.

HB 870—Sparkman—An act relating to public welfare; authorizing the transfer of certain funds from state assistance fund to the Department of Mental Health. OSMA: Under consideration. □

Postgraduate Course Scheduled for Ardmore

Lake Murray Lodge, Ardmore, is the site of the next Regional Postgraduate Course sponsored by the Oklahoma State Medical Association and the University of Oklahoma Medical Center's Department of Postgraduate Education.

The course will be held March 23rd and will feature three guest lecturers from the University of Oklahoma School of Medicine. The subject is "The Small Intestine." The meeting will begin at 4:30 p.m., with two hours of lecture, followed by dinner and another two hour period of lecture and discussion.

This year marks the fifth consecutive year for OSMA sponsorship of the series of eight Regional Postgraduate Education Courses—held throughout the state during the months of January through April.

At the rate of two per month, the courses are held at decentralized meeting sites across the state. Each program is approved for four hours credit (Category 1) by the American Academy of General Practice. A registration fee of \$7.50 covers the complete scientific program as well as the dinner.

The postgraduate course which was scheduled to be held February 23rd at Ponca City was cancelled due to icy conditions. Plans are being made to reschedule the course for early April.

In addition to the March 23rd Course in Ardmore, three more courses are scheduled for the following dates, with the corresponding subjects offered and at the location indicated:

March 30th—"The Blood," Western Sands Motel, Woodward.

April 20th—"The Ovaries," Oakwood Country Club, Enid.

April 27th — "Small Intestine," Tradewinds Motel, Muskogee.

Medical Television Series

The OSMA and The University of Oklahoma School of Medicine sponsor the medical television series, carried by Channel 11, KOED-TV, Tulsa, and Channel 13, KETA-TV,

Oklahoma City. The remaining programs may be seen on Mondays and Tuesdays at 9:35 p.m., every week through March 30th.

The remaining March program schedule is as follows:

March 15th and 16th—Congestive Heart Failure.

March 22nd and 23rd—Pancreatitis and Its Management.

March 29th and 30th—Tropical Diseases in American Travelers. □

AMA Institute On Alcoholism Scheduled For Tulsa, April 8th

All Oklahoma physicians are invited to attend an important Institute on Alcoholism in Tulsa's Mayo Hotel on April 8th. The professional meeting is being sponsored jointly by the Oklahoma State Medical Association and the American Medical Association's Committee on Alcoholism and Drug Addiction.

The doctors' meeting will be held simultaneously with the Annual Meeting and Workshops of the National Council on Alcoholism, a meeting being planned for the Mayo Hotel April 7th-9th by the Tulsa Council on Alcoholism.

Heading the local arrangements activity for the professional Institute on Alcoholism will be Robert G. Perryman, M.D., Tulsa, who is Institute Coordinator for the Oklahoma State Medical Association.

Programs will be mailed to every doctor in the state around March 15th, and additional mailings will be made in Tulsa and surrounding counties.

Program Details

Here is a preview of the one-day Institute program as planned by the American Medical Association:

Introduction of the Moderator—Harlan Thomas, M.D., President, Oklahoma State Medical Association, Tulsa

Moderator—Marvin A. Block, M.D., State University of New York, Buffalo

The Physiological Aspects of Alcoholism—Leon Greenberg, Ph.D., Rutgers School on Alcohol Studies,

Rutgers University, New Brunswick, New Jersey

The Medical Treatment of Alcoholism—Doctor Block

The Psychiatric Aspects of Alcoholism—Herbert Raskin, M.D., Wayne University Medical School, Detroit
Questions and Answers

Luncheon—Featured Speaker: Gordon Bell, M.D., Medical Director, Bell Clinic, Willowdale, Canada

Alcoholism and Industry — Thomas McGuire, M.D., New Castle, Delaware

Alcoholism and Religion—Rev. Dr. Paul B. McCleave, AMA Committee on Medicine and Religion, Chicago

Alcohol and the Law—Professor William Curran, Boston University Law Medicine Institute, Boston

Questions and Answers

No registration fee will be charged. The luncheon tickets are \$3.00 each. □

Board of Trustees Okays Major Study Of Prepayment Programs

At a February 4th meeting of the association's Board of Trustees, held in Oklahoma City, the Board gave conditional approval to conduct a year-long intensive study of the health economic situation in Oklahoma, with a view toward assuring state citizens of the most economical health care and the best possible prepayment mechanism for financing such care.

The Board generally approved the plan submitted by the association's Prepaid Medical Care Committee, headed by Doctor Paul Bischoff of Tulsa, but requested that a more detailed plan be submitted to the House of Delegates at its annual meeting next May.

Under the plan submitted by Doctor Bischoff, the association would create a task force on a cooperative basis with Oklahoma Blue Cross-Blue Shield, the Oklahoma Hospital Association, and representatives of consumer groups. The task force, using outside help from a reputable market research firm, would study in depth the ability of Oklahoma citizens to

finance health care, the quality of prepayment programs and their availability to the general public, the acceptance of such programs by the public and the health care professions, and will recommend plans to improve the economic aspects of health care in the state.

The project arose from the recognition that the problem of financing of health care lies at the root of major association troubles—public relations and legislation.

Moreover, in 1964, government spending accounted for \$35.4 billion in the field of health care, or 25.5 per cent of all health care spending. If the tide is to be stemmed, according to Doctor Bischoff, the medical profession must take the lead to make sure the "economic house" is in order, that corrections are made, if necessary, and that the public is fully informed as to the true value of voluntary prepaid medical care over government medicine.

"Only through the dramatic approach of a major study," he said, "can we demonstrate the effectiveness of our present system, improve it where indicated, and protect the American people and the profession from a complete government takeover in the years ahead."

Doctor Bischoff and representatives of the other task force groups are now developing specific recommendations for presentation to the House of Delegates. The project has the support of Doctor Rex Kenyon, OSMA President-Elect, who told the Board of Trustees that the matter is of sufficient importance to suspend or curtail some other association activities "in order to do a comprehensive job on this project of highest priority."

Other Actions

Among other actions, the Board of Trustees:

- Approved a joint report by two association committees (Public Welfare and Crippled Children's) calling

for priority adjustments in the methods of compensation for health care programs operated by the Department of Public Welfare. First, the committees recommended that the Department restore cutbacks in payments to hospitals serving welfare patients. As a second priority recommendation, the committees asked that physicians be compensated for the care of crippled children at the present rate of pay for care of adults under the Department of Public Welfare's other health programs—but stated that such a payment plan should not jeopardize the financial structure of Children's Memorial Hospital, Oklahoma City. And lastly, it was recommended that professional fees for care of all welfare department patients should be restored to former levels as quickly as funds become available.

Increases in compensation rates for all providers of health services are predicted for the next biennium, provided the State Legislature does not use Department of Public Welfare funds for other state government purposes.

The joint committee report also called for OSMA support of the Department of Public Welfare "in its efforts to maintain programs for the care of the medically indigent at levels sufficient to provide adequate care for qualified recipients and reasonable rates of compensation for vendors of health services."

Trustees also approved a recommendation that the association should volunteer to assist the Dean of the O.U. Medical School to obtain adequate financial support from the Legislature, "free from dependency upon the earned income for services rendered under Oklahoma's programs for the medically indigent."

- Approved an OSMA Policy on Human Reproduction subject to ratification by the House of Delegates next May. This amounted to an endorsement of the stand previously taken by the American Medical Association, and supported by the OSMA Maternal Mortality Study Committee headed by John W. Records, M.D., Oklahoma City.

- Authorized Rex E. Kenyon, M.D., Chairman of the Council on Public Policy, to spend the necessary amount of association's funds to combat the Medicare Tax Bill and to support the Eldercare Bill. □

AMA Announces Highlights of Annual Convention in June

The Council on Postgraduate Programs of the American Medical Association announced that the program for the 114th annual convention in New York City June 20th-24th, 1965, is virtually complete, and that an attendance of between 25,000 and 30,000 physicians is anticipated.

When the AMA held its last convention in New York City in June, 1961, the total physician registration was 23,083.

J. Arnold Bargen, M.D., Temple, Texas, chairman of the Council on Postgraduate Programs, which plans the scientific programs for the AMA's two conventions each year, said that the New York City program will be most comprehensive, including lectures, scientific exhibits, preview showings of medical films and color television.

"The combined efforts of many people, particularly the specialty section secretaries, have helped to formulate a program that will be an outstanding contribution to graduate medical education," Doctor Bargen said.

There will be six general scientific meetings at the New York convention, offering to physicians the most recent findings in adverse drug reactions; organ transplantation; hearing; non-narcotic drug addiction; metabolism in growth development and aging, and diagnostic cytology.

The convention will center in the New York Coliseum at Columbus Circle, adjoining Central Park, which also housed the 1961 annual convention. Even this huge building cannot contain all of the scientific meetings, and some will overflow into hotels in the mid-town area.

The complete program of the convention will be published in the May 10th issue of the Journal of the AMA.

Twenty-three specialty sections also will have programs in addition to the six general scientific meetings, including the newly established Section on Allergy.

The AMA has scheduled eminent foreign physicians to deliver lectures at the scientific meetings to be held during the convention. In addition to program participants, large delegations of physicians from many foreign nations will attend the convention and participate in the scientific sessions. Large groups from Japan, Mexico and many other nations already have indicated that they will attend.

"American physicians will have an opportunity at the New York convention to meet and mingle with other physicians from throughout the world, and to learn of current medical knowledge in other lands," said Doctor Bargen.

"We are proud of the fact that the United States now leads the world in medical science. Thousands of foreign doctors come to our shores every year for graduate study and training. More than 2,000 American physicians are serving in foreign lands as representatives for various governmental and private medical programs. Foreign physicians have much to learn from American medicine, and at the same time there is much that American doctors can learn from the many fine professional men in medical science in other lands," he said.

"We already have found," said Doctor Bargen, "that thousands of American physicians, like the foreign doctors, are planning to combine attendance at the annual convention with a trip to New York City with their families to see the New York World's Fair, which will be in its second year next summer.

"Many physicians have decided that the 1965 meeting offers an excellent opportunity for a combination family vacation and post-graduate study session in New York," he said. □

LETTERS . . .

(Continued from Page 68)

acute myocardial infarction was \$76.00. The charge made for this care was \$225.00. Blue Shield paid 33 per cent of this patient's medical bill for hospital care. This is not an unusually high charge. The usual charge for a myocardial infarction ranges from \$200.00 to \$250.00 and up if there are major complications such as acute congestive failure, shock and problems with arrhythmias.

It is, therefore, readily apparent that Blue Shield benefits for medical care are quite inadequate at the present time. The public expects their insurance to do a better job than Blue Shield is doing in this area. Plans are available in other states and other areas which provide for consultations for concurrent medical

and surgical care and provide a benefit considerably greater than Blue Shield provides in Oklahoma. Two such plans do this for an annual premium of \$12.00 to \$15.00 more than the Blue Shield premium which is charged in Oklahoma on a family basis. This is approximately \$1.00 per month more per family.

I feel it is time that instead of complaining about the inadequacies of Blue Shield payments, we should use our individual and combined influence to assure that this plan which has become known as the Doctor's Plan be upgraded to provide the benefits which we all know are necessary for this to be a truly desirable policy for every citizen of Oklahoma to obtain.

Sincerely,

ARTHUR E. SCHMIDT, M.D. □

DEATHS

MANFORD S. WHITE, M.D.

1897-1965

Manford S. White, M.D., 67-year-old former longtime Blackwell physician, died in Blackwell January 23rd, 1965.

He was born in Fort Branch, Indiana in 1897 and graduated from the University of Louisville School of Medicine in 1924. Later that year, he established his practice in Blackwell where he remained until his retirement in 1956 when he moved to Decatur, Arkansas.

Doctor White was active in civic as well as medical affairs having served as city physician from 1927 to 1930. He served in both World War I and World War II. □

W. T. HAWN, M.D.

1885-1965

A pioneer Binger physician, W. T. Hawn, M.D., died February 15th, 1965.

The 80-year-old doctor was born in Patton, Missouri and graduated from Barnes Medical College in 1910. His first practice was established in Lookeba and a short time later he

moved to Binger where he continued to serve the community until his retirement a few years ago.

The physician's civic duties included serving as mayor of Binger. Among his medical affiliations were his membership in the Caddo County Medical Society which he also served as president, the American Academy of General Practice and the Oklahoma City Clinical Society.

Doctor Hawn had received dual honors from the Oklahoma State Medical Association. A Life Membership was awarded in 1950 and a Fifty-Year-Pin was presented in 1960. □

PATRICK H. LAWSON, M.D.

1904-1965

A Marietta physician, Patrick H. Lawson, M.D., died in Oklahoma City February 1st, 1965.

Doctor Lawson was born in Wavne, Oklahoma and received his medical degree from the University of Oklahoma School of Medicine in 1929. He practiced in Oklahoma City until 1939 when he moved to Marietta.

He had served as division surgeon with the 45th Infantry Division from 1947 to 1950. □

Miscellaneous Advertisements

OPENING for board qualified or certified internist. Group is located in new 11,000 sq. ft. clinic building adjacent to new community hospital. Contact James W. Loy, Administrator, The Chickasha Clinic, Chickasha, Oklahoma.

WILL BE VACANT about April 1st, Mauldin-Hill-Yates Clinic, 1301 SW 29th, Oklahoma City. Ideal for individuals or partnership. Much of neighborhood clientele pays cash for office calls. Well located, well established, (14 years). Not far from both hospitals, (1 new). 5,000 sq. ft., 25 rooms for examining and offices. Plenty of room for filing, laundry, conferences, supplies, etc. Central heat, air-conditioned, 3 good parking lots. Next door to a good drug store. Should be room for 3 or 4 M.D.s. Have had inquiries from individual doctors, if interested, maybe something can be worked out. Rent unbelievably low. Contact Ralph Wootan, ME 4-3317, or CE 6-8874.

EXCELENT opportunity for general practitioner to join on associate basis. City of 17,000 with excellent schools and located ten minutes from Oklahoma City or Norman. Private suite in new clinic now available. Good hospital with full privileges available. Contact Key M, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

SURGEON completing residency in July, 1965, desires Oklahoma location. O.U. graduate, military service completed. Contact W. E. Bowers, Jr., M.D., 5907 Windamore Drive, Little Rock Arkansas.

BOARD certified surgeon desires Oklahoma location in group or partnership practice. 1955 graduate of University of Texas, Medical Branch, will complete military service in June, 1966. Contact Thomas F. Camp, Jr., M.D., 6518 Carrie Lane, San Antonio, Texas.

UROLOGIST desires association with partner or group. Colorado graduate with two years' general surgery residency, plus now completing four years' Army service in urology. Board certified. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

UNLIMITED opportunity for one or two young general practitioners in a suburban area of 40,000 with no M.D. All of the advantages of a small town practice in a large city. Available July, 1965. Contact Key D, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE: Beck-Lee Cardi-All EKG and Keleket X-ray machine, 100 MA, 100 KV. These machines are older models but in very good working order and ideal for office work. If interested contact Curry Clinic-Hospital, Sapulpa, Oklahoma, P.O. Box 581, Phone BA 4-3081.

FOR SALE: Laboratory and x-ray equipment, excellent condition. Will sacrifice to sell in 60 days. G.E. 100 MA X-ray. Medecolator ultra-sound GE EKG. Leitz Photrometer. Castle autoclave. Centrifuge. Six unit cell counter. Pipette shaker, many other items. Claude M. Hirst, M.D., Shawnee. Call BR 3-3030 or BR 3-3251.

FIRST YEAR resident in OB-Gyn with two and one-half years in general practice desires locum tenens for three days to a week. Available March, April or May. Oklahoma license. Call WI 6-9118, 4300 N.W. 43, Oklahoma City.

WANTED, ambitious, well-qualified physician to locate in Seneca, Kansas. Modern hospital. Productive agricultural area. Excellent outdoor activities. Inquire, Chamber of Commerce, Seneca, Kansas.

WANTED: General practitioner to join on associate basis. City of 8,000 including state college enrollment. Progressive city with new 30-bed hospital. Contact Key F, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

BOARD eligible anesthesiologist wants practice opportunity in Oklahoma. Available July 1st. Contact Key C., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

BEGINNING residency training in July. Wish to sell partnership in clinic and hospital. No down payment. Southwestern Oklahoma town, recreational area. Contact Key H., The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR LEASE, established clinic building, choice northwest Oklahoma City location on May Avenue. 3,000 square feet, ample parking, \$7200 per year. Royal Realty, VI 2-2200.

FIRST-YEAR general surgery resident desires locum tenens in Oklahoma for one or two weeks in March, April or May. Contact Larry L. Young, M.D., 5502 West Avalon, Phoenix, Arizona.

BIG SAVINGS on "Returned-To-New" and surplus equipment. Reconditioned, refinished, guaranteed, X-Ray, examining tables, autoclaves, ultrasonics, diathermies, or tables, or lights, and more. Largest stock in the Southwest. WANTED: Used Equipment. TeX-RAY Co., 3305 Bryan, Dallas. (Open to the profession Wednesdays, Thursdays, 9-5. Other hours by arrangement.)

MODERN clinic for lease. Also for sale 100 mil GE X-ray, autoclave, centrifuges, thermofax. Contact Mrs. Robert O. Ryan, 1017 Jenkins, Norman, Oklahoma.

An Important Proposition

WHO COULD HAVE predicted the medical-economic problem of an aging population in time to solve it voluntarily and thus to prevent federal intervention?

Anyone could have made such rudimentary observation—but little was done until the situation had already become a national political and medical headache.

It is this bit of hindsight which has prompted some foresight by one of the Oklahoma State Medical Association committees. The Prepaid Medical Care Committee will present an important proposition of considerable magnitude to the House of Delegates on May 14th.

Delegates will be asked to approve the creation of a Joint Task Force to study Oklahoma's health economic character, to identify areas of unmet need, and to effect solutions through expanded employment of the mass-enrollment techniques of Blue Cross-Blue Shield.

It is to be proposed that the medical association join forces with representatives of the Oklahoma Hospital Association, the Blues, and the public to tackle this formidable research and action program during a one-year intensive study.

—What percentage of the population is protected by voluntary prepayment plans, by income bracket and county by county?

—How many people have no health insurance protection, but are otherwise cared for through government programs, private or other resources?

—What chunk of our society is without any known health economic resource?

—How well do health insurance and prepayment plans perform in meeting the costs of illness, and how do the various plans compare in their value to the patient?

—How does the public feel about health insurance—about health care costs—and about doctors and hospitals?

—Can the product design of voluntary health insurance be perfected through consumer research and through professional critique?

—Is it possible to adequately protect the Oklahoma population against the major costs of illness through the voluntary mechanism at a reasonable price?

If approved by the OSMA House of Delegates and by the policy-making bodies of other sponsoring groups, these and other important questions will be answered through the techniques of modern research—and corrective solutions will be sought.

Since the project will require the full faith and financial backing of the participating organizations, a glimpse into the overall health economic picture was made by our Prepaid Medical Care Committee to measure the justification for a project of this magnitude.

—It was discovered that federal, state and local governments now finance 25.5 per cent of all health care spending in the United States.

—More than 30 million Americans, almost one-sixth of the population, are now eligible for treatment in federal hospitals or clinics. In addition, the three levels of government now finance the health care of nearly 17 million others.

—The passage of the Medicare Tax Bill will add 18 million more Americans to the federal health care rolls.

Thus, it becomes apparent that unless voluntary health insurance and prepayment plans are perfected to the highest degree, medical economic gaps will occur to a limited degree, and the government will rush in to an excessive degree. Such has been the pattern in the past, and the future outlook holds the unhappy promise of accelerated governmental activity in the field of health care.

It is obvious to us all that our house must be in order if we hope to preserve health care freedom for the *remaining* self-reliant population. It is equally obvious that reacting to situations after they occur is not the answer.

The projected health economic survey of Oklahoma is a farsighted attempt to recapture the leadership in health economic planning for those who believe in the voluntary system of financing health care costs.

We may fuss about the details of the Prepaid Medical Care Committee's proposition when it hits the floor of the House of Delegates, but let us not be so shortsighted as to scuttle or neutralize a genuine effort to measure the effectiveness of our system and to improve it to the highest possible degree.

The matter is worthy of the Delegates' most conscientious consideration. □

Compulsory Social Security

THE COMPULSORY entry of physicians into the Social Security retirement program looms as a distinct possibility during the current session of Congress.

Not only is this feature contained in H.R. 1, more commonly referred to as the Medicare Bill, but it is further being supported by the profession's staunchest anti-Medicare ally, the United States Chamber of Commerce.

The U.S. Chamber has favored total population coverage under O.A.S.I. for the past fourteen years. Until recently, this policy of the Chamber had attracted little attention from physicians who were battling against compulsory Social Security coverage, but now an alert group of professional individuals from Oklahoma, Texas and Illinois is carrying the fight into the policy-making sanctuary of the U. S. Chamber.

The U.S. Chamber's Policy Committee has received testimony from this small group of gladiators on at least two occasions in Washington, D.C. All committee members have been cordial, and some have even rallied behind the position of the medical profession, but to date the policy remains unchanged.

Another attempt will be made this month when the Policy Committee meets immediately prior to the national group's annual meeting. If this attempt fails to result in a policy change, it is planned to call in thousands of physician-chamber members to protest the policy during the general business session of the annual meeting.

Briefly, the profession's arguments against compulsory Social Security participation are as follows:

1. Most physicians would have little prospect of receiving benefits until reaching age

72, since they would still be practicing medicine after age 65 and their earnings would be too high to qualify for the retirement benefits.

2. Because most physicians either die with their boots on, or else retire at a very ripe old age, such taxes would be unfair to this unique professional group.

3. Most physicians are willing and able to provide for their own retirement through private insurance. The same is true regarding total and permanent disability.

4. Physicians are already underwriting their fair share of the O.A.S.I. program through contributions made on behalf of their employees and through their income taxes.

Oklahoma physicians have rejected compulsory Social Security coverage by more than three-to-one (1962 poll), and other state society polls have established opposition of at least this much or greater.

The most current projected Social Security tax rate for self-employed individuals (Medicare Tax included) is 7.8 per cent of the first \$5,600 of annual income by 1971. Stated in dollars, by 1971 the self-employed individual will be forced to pay \$436.80 each year into O.A.S.I.

At this rate, a 32-year-old physician would contribute more than \$17,000 during his working years with no assurance of receiving anything in return.

The U.S. Chamber of Commerce should reconsider supporting discriminatory legislation against a particular group. □

The Annual Meeting

The complete program for the Oklahoma State Medical Association's 1965 annual meeting appears in this issue, beginning on page 141.

Look it over, please.

You will find an outstanding scientific and general program of practical value to the vast majority of OSMA members, regardless of their general or special interests.

It has been planned and achieved by the hard work of many of our Oklahoma colleagues—for our benefit—and it incorporates the time and effort of other local and visiting physicians who have prepared presentations especially for us.

There is one remaining ingredient for success—a good turnout from the profession! □



Each year in May we come to what should amount to the climax of the previous twelve months in the affairs of The Oklahoma State Medical Association. We know this function as "The Annual Meeting,"

which this year will be held on May 14th, 15th and 16th, 1965. All paths will point to Tulsa this time for a new, more enlightening, and enjoyable session. Both the city of Tulsa and the OSMA are dedicated to making this a fruitful experience for all those attending.

An outstanding scientific program featuring a battery of distinguished authorities in their fields has been planned by our program committee. Member participation will be encouraged with multiple panels, lectures, and question and answer sessions. The inclusion of local talent as well as the imported experts should cover the field of practice for both specialists and family physicians.

For a real insight into the functions of the OSMA, I would recommend and invite all members to come early and attend the Board meeting on Thursday or, if this is too early, attend the sessions of the House of Delegates on Friday and Saturday. Here is the place where you can become acquainted with some of the problems of the OSMA, and to let yourself be heard in the solution of them.

Reference committees will debate, discuss and evaluate all resolutions presented to the house as well as all the actions of your officers and board of trustees for last year. At these committee hearings, you may speak

your convictions and possibly influence actions in the direction that you would like. Certainly, you will not be heard if you fail to attend and speak at the proper time.

More participation in these reference committees will make any decision that we make more representative of the thinking of the membership as a whole. It is well past time that all members of OSMA become involved in the business of the organization. We all belong to OSMA and AMA, and anything that happens to them is in fact happening to us individually.

Let us be sure that we know what is happening to us so that we may be more able to try to do something about it. Complaining about the way someone else has handled a problem doesn't change the past result.

The entertainment will be changed, somewhat, this year. We are trying a new approach to the dinner and inauguration. The inclusion of a "name band," has been dropped for a better meal and for a more varied program of entertainment. The entire evening is designed to satisfy the majority of our members and wives. You are assured of refreshment, good food, entertainment and an opportunity for dancing.

The scientific program, the House of Delegates, and the scientific exhibits will be located in the new civic center. Reference committees and Saturday evening functions will be held at the Mayo Hotel. The improved facilities should make this one of our best meetings.

Let this be your official invitation to come early and stay late at the 1965 OSMA Annual Meeting, May 14th, 15th, and 16th. Enjoy education, business and entertainment at their best.

I'll see you there.

Harlan Thomas MD

Present Status of Simplified Body Perfusion

N. ZUHDI, M.D.
J. CAREY, M.D.
N. MUSA, M.D.
MODINE PIERCE
O. RICKEY, M.D.
A. GREER, M.D.

*Follow-up report of the double helical
reservoir heart-lung machine primed
with five per cent dextrose in water
producing hemodilution for total
body perfusion.*

THE ACCEPTANCE of hemodilution perfusion is almost universal. Its applicability to various heart-lung machines has been reported by various authors. Since its inception more than five years ago,¹ changes in technical, experimental, and clinical perspectives have further simplified total body perfusion for open heart surgery. This report brings up to date the technique of hemodilution using the double helical reservoir heart-lung machine.

PREPARATION OF THE HEART-LUNG MACHINE

The machine is a scaled down DeWall-Lillehei heart-lung machine.² Thermal exchange is accomplished by means of a mirror pol-

ished stainless steel coil which is inserted into the plastic helix and through which water at 4°C or 45°C is counter-currently circulated to cool or warm blood.³

A. Disposable Items:

1. Plastic tubing. Materials used in compounding plastic material for extracorporeal circulation should meet U. S. Food and Drug Administration requirements. Animal tests regarding pyrogenicity and antigenicity are desirable. Such Vinyl tubing is available in packs in the desired sizes and sterilized by high energy electrons. This pre-packaged sterilized tubing* offers both safety factors and time saving measures.

2. The oxygenating tube and de-bubbler. The bubbling unit with inlets for venous blood, cardiotomy suction blood and oxygen, the oxygenating tube, and the de-bubbler including the proper monofilament nylon filter, are being supplied as a disposable plastic unit** (figure 1). The stainless steel sponges** dipped in properly prepared Dow Corning antifoam-A are placed in the canister and the unit autoclaved for 30 minutes at 250°F under 20 pounds pressure (figure 2). A pre-packaged and sterilized unit will be available in the future.

3. The cardiotomy suction reservoir. This consists of a disposable pre-packaged and sterilized unit.***

B. Non-disposable Items:

The non-disposable items include five stainless steel connectors, a stainless steel

From Mercy Heart and Research Institute, Mercy Hospital, St. Anthony Hospital and Baptist Memorial Hospital, Oklahoma City.

*American Optical Company, 80 Heart Street, Chelsea, Massachusetts.

**Phelan, Minneapolis, Minnesota.

***Travenol Laboratories, Morton Grove, Illinois.

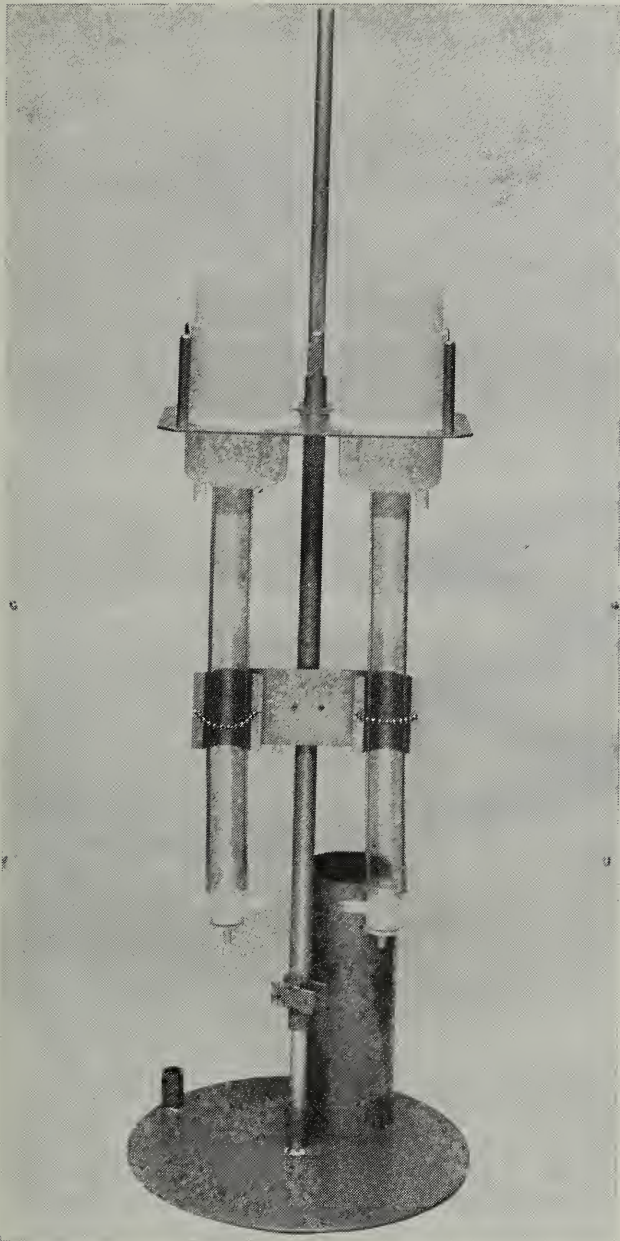


Figure 1. The disposable oxygenator-canister unit. A single unit has proved to be adequate for all our clinical perfusions.

stopper at the lower end of the helix, and a stainless steel helix. These should be washed with green soap and with a solution of one per cent sodium hydroxide, and then rinsed thoroughly. Only a soft cloth should be used, not a brush. The sigmamotor pump has been used for the past six years.

C. The assembled heart-lung machine is shown in figure 3. The dark lines indicate the pre-packaged sterilized disposable portions, the cross hatched areas indicate disposable portions, and the clear areas those parts that have to be prepared each time and re-used.

D. Figure 4 and figure 5 indicate the different parts and sizes used for flows below 800 mls a minute, and for flows above 800 mls a minute. They are separated into three headings of pre-packaged, sterilized and disposable, disposable and non-disposable.

IMMEDIATE PREPARATION OF MACHINE

The heart-lung machine is assembled in the following order: The double helix, the arterial line, the oxygenating-de-bubbling unit, and the cardiotomy suction reservoir.

The helix and arterial line are primed with five per cent dextrose in distilled water, and carefully checked for air bubbles. The priming volume is calculated at $(2 \text{ ml} \times 24 \text{ hours} \times \text{weight in kilograms}) : 3$. The pump is calibrated at 20 ml per kilogram of body weight a minute or at any desired flow rate. Priming volume to flow rate a minute ratio of about one is safe. The thermal source is connected to the heat exchanger and the oxygenator to the oxygen source.

THE CONDUCT OF HEMODILUTION HYPOTHERMIC PERFUSION

1. Premedication consists of the administration of Nembutal, Demerol, and scopalamine to adults, and Demerol and scopalamine to children. Induction and intubation are carried out with intravenous thiopental and succylcholine for adults, and inhalation of

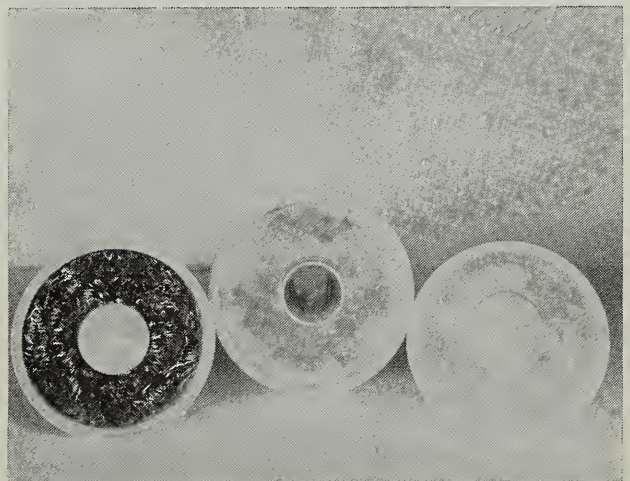


Figure 2. Three views of the inside of the canister. From right to left: Plastic canister with the central pole and two outlets, the monofilament nylon filter in place, and the stainless steel sponge around the central post.

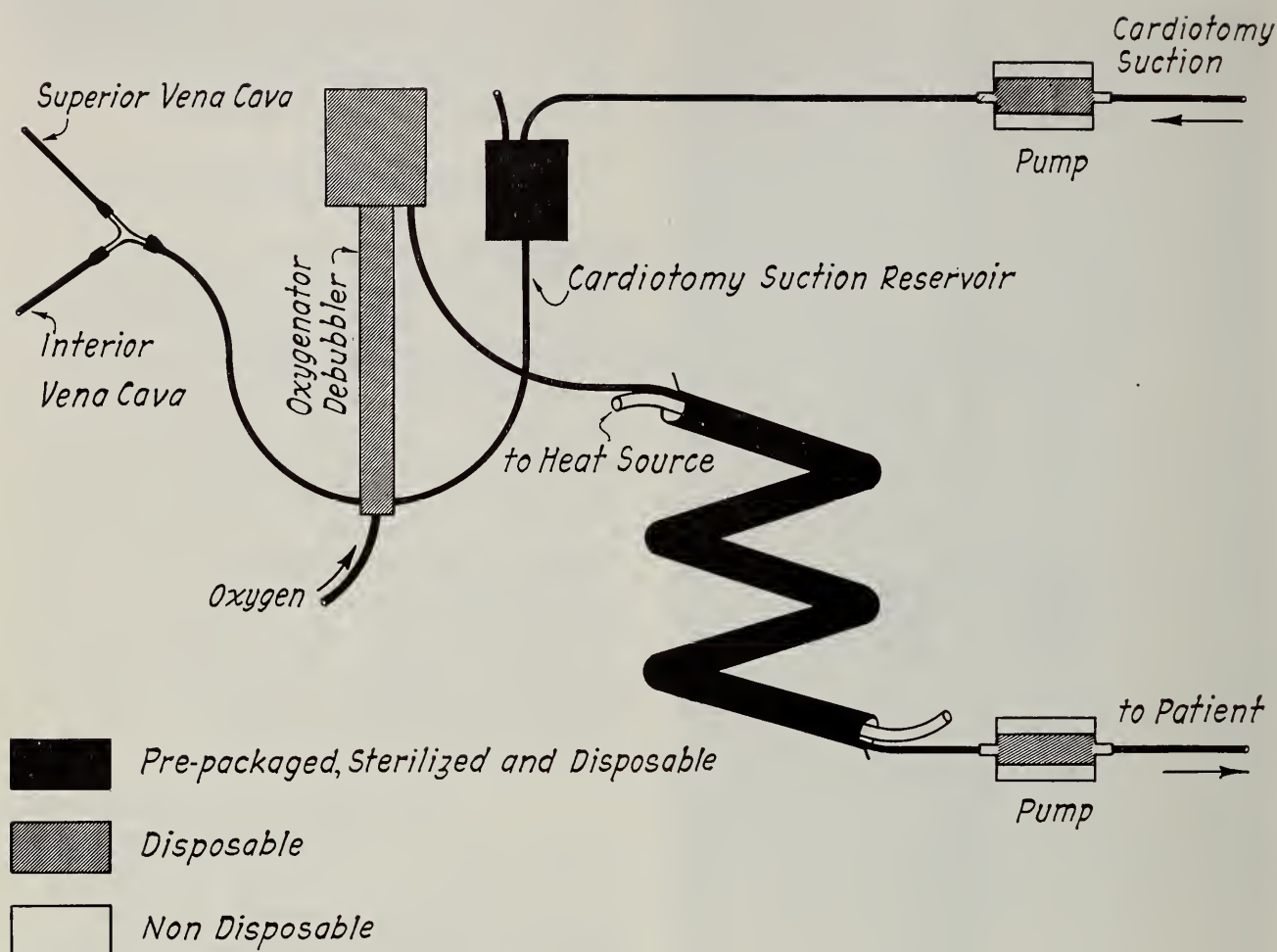


Figure 3. Schematic of the double helical reservoir heart-lung machine.

nitrous oxide and fluothane for children. Maintenance anesthesia is obtained with 70 per cent nitrous oxide and oxygen supplemented with curare.

2. Hemodilution Perfusion.^{4, 5} All patients are placed supine with the head down five to ten degrees. We have used the femoral artery routinely for return of the arterialized blood of the body. The catheter used should be adequate for the flow rate, otherwise the blood in the tube may attain velocities detrimental to the formed blood elements. Aqueous Heparin, three to five mg. per kilogram of body weight, is given intra-atrially prior to cannulation, and equivalent amounts of Protamine given intravenously at the completion of the perfusion.

Partial perfusion is used during the cooling period to 30°C and during the warming phase as soon as feasible. When both the superior and inferior venae cavae are occluded for total body perfusion, inflation of

the lungs is stopped. Partial perfusion should be continued until the heart has an efficient contraction to maintain a good aortic pressure and palpable peripheral pulses. Perfusion is usually stopped at 32° to 34°C.

The main duty of the heart-lung machine operator is to regulate, with a partially occluding clamp, the inflow of venous blood into the oxygenating tube in order to maintain the level of the blood-five per cent dextrose in water mixture in the helix at its pre-perfusion level. The pre-calibrated arterial flow is not altered during any phase of the perfusion. Blood hold-over in the de-bubbling canister should be checked regularly. Cardiomy suction is accomplished by the use of a pump which directs blood to the cardiomy reservoir. This empties by gravity into the lower end of the oxygenating tube.

Cooling of the myocardium by continuous infusion of isotonic saline solution at about

1. Pre-packaged, disposable and sterilized items

No. of Pieces	Type	Size	Length	Purpose	Cost
1	Vinyl*	1¼" I.D.	82"	Helix	\$25.65
5	Vinyl*	⅜" I.D.	52"	Conduits	\$ 2.60 each
1	Vinyl*	¼" I.D.	52"	For Oxygen	\$ 1.40 each
1	Vinyl**	Cardiotomy suction reservoir unit			\$ 6.00 each
2. Disposable Unit					
1	Vinyl***	Oxygenator-de-bubbling unit			\$12.50
2	Latex Rubber	¾" I.D. x 2	12"	Pump head	\$ 1.00
3. Non-disposable Items					
1	Stainless Steel Connector	⅜"-⅜"-⅜"			
4	Stainless Steel Connector	¾"-⅜"			
1	Stainless Steel Stopper	1¼" I.D.		Lower end of helix	
1	Stainless Steel Helix	½" I.D.		Heat exchanger	

Figure 4. Parts and sizes used in the assembly of the double helical reservoir heart-lung machine for flow rate above 800 mls a minute.

*American Optical Company, Chelsea, Massachusetts
**Travenol Laboratories, Morton Grove, Illinois
***Phelan, Minneapolis, Minnesota

4°C into the pericardial cradle is performed routinely with all cases.⁶ The aorta is clamped after the heart starts fibrillating. This topical cooling of the myocardium is used for all congenital defects and for acquired diseases of the mitral and aortic valves, including aortic and mitral valve replacements. Coronary perfusion is not used at the present time.

Accurate computation of blood loss is performed by weighing sponges and measuring

the amount aspirated. This blood loss is replaced with citrated, banked blood.

Temperature and electrocardiography are two of the physiologic data that are recorded during every perfusion. The temperature is measured in the mid-esophagus. The electrocardiogram is helpful in that its reversal to a pre-operative pattern usually indicates that partial perfusion has served its purpose in getting rid of currents of injury due to aortic occlusion and/or air embolism of the right

1. Pre-packaged, disposable and sterilized items

No. of Pieces	Type	Size	Length	Purpose	Cost
1	Vinyl*	1" I.D.	82"	Helix	\$13.40
3	Vinyl*	3⁄8" I.D.	52"	Conduits	\$ 2.60 each
3	Vinyl*	1⁄4" I.D.	52"	Conduits	\$ 1.40 each
1	Vinyl**	Cardiotomy suction reservoir unit			\$ 6.00
2. Disposable Unit					
1	Vinyl***	Oxygenator-de-bubbling unit			\$12.50
2	Latex Rubber	1⁄2" I.D. x 2	12"	Pump head	\$ 1.00
3. Non-disposable Items					
1	Stainless Steel Connector	1⁄4"-1⁄4"-1⁄4"			
4	Stainless Steel Connector	1⁄2"-1⁄4"			
1	Stainless Steel Stopper	1" I.D.		Distal end of helix	
1	Stainless Steel Helix	1⁄2" I.D.		Heat exchanger	

Figure 5. Parts and sizes used in the assembly of the double helical reservoir heart-lung machine for flow rates below 800 mls a minute.

*American Optical Company, Chelsea, Massachusetts
**Travenol Laboratories, Morton Grove, Illinois
***Phelan, Minneapolis, Minnesota

coronary artery, and coincides with good aortic and peripheral pulses.

Careful evacuation of air from the left ventricle and atrium by filling these chambers with blood from the lungs while the mitral valve is kept incompetent, and from the base of the aorta by inserting a needle, have reduced to a minimum the hazard of right coronary artery embolism.

DISCUSSION

The method of definitive priming of the heart-lung machine with a blood substitute eliminating the necessity of heparinized blood and blood priming requirements for the pump oxygenator is established. It produces physiologic responses which compare favorably and may surpass those obtained by other total body perfusion techniques.⁷

Many diluents emerged and were advocated by various authors. Low molecular weight dextran was given an impetus by Long *et al.*⁸ in order to prevent sludging of blood as seen by cinemicroscopy during total body perfusion. Conversely, a more thorough organ perfusion may be permitted by hemodilution, particularly during hypothermia, which predisposes to increased blood viscosity and capillary stagnation. The combination of blood and dextran gives a higher viscosity than either alone. Reemtsma and Creech⁹ believe that even though low molecular weight dextran in six per cent solution is more viscous than plasma, it may lower the apparent viscosity of whole blood by lowering the hematocrit level. Patients have a smaller urine output during the first 24 hours following dextran-blood mixture priming of the heart-lung machine than following complete five per cent dextrose in water priming. It seems that if low molecular weight dextran is used, the size of the renal arteries by cine-angiography remains larger after one hour's perfusion than if five per cent dextrose in water is used.

Cuello¹⁰ in Lillehei's laboratories has done careful studies with a ten per cent solution of low molecular weight dextran, five per cent dextrose in water, and equal amounts of blood and low molecular weight dextran. Litwak and Gadboys¹¹ used five per cent dex-

trose in Ringer's solution, to which they added 100 ccs of Albumisol, which is a five per cent solution of human serum albumin. Cooley, Beall and Grondin¹² used five per cent dextrose in water. Roe and Associates¹³ prefer a perfusate of balanced electrolytes and low molecular weight dextran. Neptune¹⁴ used saline, five per cent glucose in water, and low molecular weight dextran. Bosher¹⁵ advocated albumin to obtain the proper osmotic pressure. Schlosser and Grote¹⁶ used low molecular weight dextran with sodium bicarbonate, and low molecular weight dextran without sodium bicarbonate. They used Hemaccel and Levulose. Linder, Sakai and Paton¹⁷ used five per cent dextrose in water, five per cent dextrose in 0.11 per cent saline and five per cent dextrose in 0.2 per cent saline. Ablaza *et al.*¹⁸ used low molecular weight dextran and blood. Christlieb¹⁹ uses a "priming cocktail." The constructive work of Lillehei and associates and DeWall and associates^{20, 21} on hemodilution is here to stay. The avalanche of primes will increase with time, in geometric progression. For present open heart surgery five per cent dextrose in water is satisfactory.^{22, 23}

The availability, pre-sterilization and disposability of most of the components of the three-dimensional double helical reservoir heart-lung machine with all its inherent safety measures invalidate the advantages of the plastic sheet oxygenator with its inherent compromise features.^{12, 24} In addition, the present cost of the three-dimensional double helical reservoir oxygenator, as compared to the plastic sheet oxygenator makes the former much more attractive. Finally, a hypothermic unit is not as yet satisfactorily incorporated in the plastic sheet oxygenator. □

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430 N.W. 12th Street. Oklahoma City, Oklahoma

OSMA REGIONAL POSTGRADUATE COURSE

"THE OVARY"

Oakwood Country Club

Enid, Oklahoma

April 20th, 1965

AFTERNOON SESSION

- 4:30 p.m. OVARIAN DEVELOPMENT AND PHYSIOLOGY
Warren M. Crosby, M.D.
- 5:00 p.m. PATHOLOGY OF OVARIAN TUMORS
James A. Merrill, M.D.
- 5:30 p.m. DIAGNOSIS AND TREATMENT OF ESTROGEN DEFICIENCY
John F. Kuhn, M.D.

EVENING SESSION

- 7:30 p.m. OVARIAN CONSERVATION—WHEN SHOULD A NORMAL OVARY BE REMOVED OR RESECTED?
Warren M. Crosby, M.D.
- 8:00 p.m. OVARIAN FACTORS IN INFERTILITY
James A. Merrill, M.D.
- 8:30 p.m. TREATMENT OF OVARIAN CANCER
John F. Kuhn, M.D.

Registration \$7.50 includes dinner

Acceptable for 4 hours Category I Credit by the American Academy of General Practice

Induction of Labor With Hypertonic Glucose Solution After Intrauterine Fetal Death

WILLIAM E. HOOD, M.D.

Intra-amniotic injection of hypertonic solutions is relatively simple, does not produce maternal side effects and stimulates the onset of labor rapidly and effectively.

INTRAUTERINE fetal death is an uncommon complication of pregnancy. The incidence has been stated to be near one per cent for all deliveries. The cause of fetal death *in utero* is frequently unknown either at the time of fetal death or subsequently. Some common causes are toxemia of pregnancy, erythroblastosis, diabetes, renal disease, fetal cord complications and fetal anomalies. Regardless of etiology the therapy remains the same. In the past the rule has been expectant treatment only. When the retained dead fetus failed to deliver spontaneously, it became necessary to empty the uterus either by induction of labor or surgery.

There are two primary reasons for emptying the uterus after intrauterine death: (1) The possibility of developing fibrinogen depletion with a bleeding tendency and (2) Emotional trauma to the patient.

The use of hypertonic saline or glucose solutions injected into the amniotic space will induce labor. This method to replace

surgical intervention and to reduce the time and difficulty of the usual induction of labor has been welcomed by many in the current literature.

METHOD

Three cases of intrauterine death occurring in the mid-trimester of pregnancy were treated at Baptist Memorial Hospital, Oklahoma City, in the labor department of obstetrics. Routine admissions to the labor department were made just as for any other patient for the induction of labor. Routine laboratory studies, Rh factors and serum fibrinogen determinations were made. Perineal preparation and cleansing enemas were given. Utilizing a #16 or #18 gauge spinal needle with stylet, a 50 per cent solution of glucose in distilled water was injected into the amniotic cavity. Insertion of the needle was made in the midline midway between the symphysis pubis and the umbilicus after local infiltration of the skin and subcutaneous tissues with one per cent Zylocaine solution. Insertion of the needle was essentially without pain and required no systemic sedation or general anesthesia.

In each case aspiration from the amniotic cavity failed to return fluid other than very thick material which was brown in color with the consistency and appearance of vernix caseosa. Two hundred cc of the solution was to be injected; however, in one case only 150 cc could be injected because of increased

resistance to further injection and in another only 175 cc was injected because of complaints from the patient. The injections were done in the delivery room on the delivery table. The patients were returned to their labor rooms immediately following the injections. They were treated then as routine labor patients with intact membranes.

CASE REPORTS

Case 1. A 26-year-old para II, gravida III, white woman was first seen August 20, 1963. Her last menstrual period began June 19, 1963. The usual symptoms of pregnancy were present. Examination revealed a well-developed, well-nourished, white woman in no distress. The blood pressure was 110/62, the weight 121 pounds. No abnormalities were found on general physical examination except for uterine enlargement compatible with six to eight weeks' gestation.

Past History. There were two normal term pregnancies with deliveries in 1959 and 1960. The babies were delivered with low forceps over median episiotomies after labors of six and eight hours respectively.

Laboratory Data. Cervical cytology class 1; blood type O; Rh positive; hemoglobin 12.6 grams; hematocrit 38 per cent; white blood cell count 8,800 with a normal differential; serology negative.

Prenatal Course. The patient observed quickening on October 9, 1963. On November 13, 1963 her blood pressure was 170/110; the urinalysis showed no proteinuria. No fetal movement was noted and no fetal heart tones were heard. Roentgenogram of the abdomen revealed no fetal skeleton. Because of the hypertension the diagnosis of a hydatidiform mole was considered. On November 23, 1963 a quantitative Aschheim-Zondek test was positive in 1:10 dilution only. The frog test was positive undiluted only. The blood pressure ranged around 150/110. By December 31, 1963 the uterus had decreased in size and the urinalysis remained negative for protein. The lady was admitted to Baptist Memorial Hospital January 2, 1964. Roentgenogram of the abdomen revealed no fetal skeleton. The serum fibrinogen was 460 mgm per cent, the hemoglobin was 14.4 grams and the hematocrit 41 per cent. The cervix was long and thick; it was not effaced or dilated.

One hundred fifty cc 50 per cent glucose in distilled water was injected into the amniotic space after failure to obtain fluid return by aspiration. After 17 hours the membranes ruptured spontaneously and a macerated fetus was delivered with the membranes, umbilical cord and placenta intact. Following delivery 1,000 cc five per cent glucose in distilled water with one ampule of Pitocin was given intravenously. A dilation and curettage with a large curet revealed no residual tissue. Her postpartum course was uncomplicated without excessive bleeding. She was dismissed from the hospital in good condition on her second postpartum day.

Case 2. A 22-year-old white woman, para 0, gravida I, was first seen October 4, 1963. Her last normal menstrual period had occurred August 20, 1963. The usual subjective symptoms of pregnancy were present. Examination revealed an early pregnancy with an expected date of confinement May 27, 1964. Her weight was 155 pounds and her blood pressure was 120/90. Her physical examination was normal otherwise except for moderate obesity.

Laboratory Data. Cervical cytology class 1; blood type B; Rh positive; hemoglobin 15.0 grams; hematocrit 46 per cent; white blood cell count 10,250 with a normal differential; serology negative.

Prenatal Course. The lady developed severe nausea which was controlled by Vespirin, 10 mgm three times daily. Fetal heart tones were first heard January 9, 1964. On February 19, 1964 during routine physical examination no fetal heart tones were heard. The uterus was enlarged to the level of the umbilicus. Her blood pressure was 120/80, weight 152 pounds and the urinalysis was negative for protein. Roentgenogram of the abdomen March 20, 1964 showed a small

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fetus with overlapping skull bones indicating intrauterine death. She was admitted to Baptist Memorial Hospital March 21, 1964. After admission the serum fibrinogen was 184.4 mgm per cent, the hemoglobin was 14.9 grams, the hematocrit 42 per cent and the urinalysis was negative. The uterus was at the level of the umbilicus. The cervix was elongated and firm; it was not dilated or effaced. On March 21, 1964 175 cc 50 per cent glucose in distilled water was injected into the amniotic cavity after failure to aspirate amniotic fluid. She had some discomfort during the injection and immediately after the injection was completed she was given 50 mgm Demerol and 25 mgm Phenergan subcutaneously. Despite this medication she continued to complain of lower abdominal cramping and backache. Uterine contractions began three hours after the injection was completed. Twelve hours after the injection she delivered a macerated fetus spontaneously with umbilical cord and placenta intact. One ampule Methergine was given intravenously after delivery. There was no excessive bleeding. Her postpartum course was uncomplicated and she was dismissed from the hospital in good condition on her second postpartum day.

Case 3. A 24-year-old colored lady, para I, gravida III, abortus I, was first seen February 24, 1964. Her last menstrual period had occurred January 10, 1964. The usual symptoms of pregnancy were present. Her weight was 134 pounds and the blood pressure 110/80. No changes were noted on general physical examination except for uterine enlargement consistent with five to six weeks' gestation. The expected date of confinement was October 17, 1964.

Laboratory Data. Cervical cytology class 1; blood group O; Rh negative; C negative, E negative, D negative; antibody titer determination was saline and albumin negative; indirect Coombs' test negative; serology negative; hemoglobin 12.0 grams, hematocrit 40 per cent; white blood cell count 10,100 with a normal differential.

Past History. Her first pregnancy terminated in a term delivery of a 6 pound, 15 ounce viable male child with Rh positive and Coombs' positive cord blood. No transfusion

was necessary. Her second pregnancy terminated in a spontaneous abortion after six weeks' gestation. A dilation and curettage was done afterwards.

Prenatal Course. Her course was uneventful until April 28, 1964 when she developed a temperature of 99.6° with flank pain and pyuria. Her symptoms and signs cleared after a course of sulfonamides. The fetal heart tones were present on June 10, 1964. She was seen again June 23, 1964 in the emergency room with another acute urinary infection. On this occasion penicillin and streptomycin were begun parenterally and sulfonamides were resumed orally. Her symptoms improved but the pyuria persisted until Furadantin was started. With this medication the urinalysis returned to normal. Fetal heart tones were absent on July 30, 1964. A roentgenogram of the abdomen August 13, 1964 revealed overlapping fetal skull bones suggestive of intrauterine death. The following day she was admitted to Baptist Memorial Hospital. Examination at that time revealed a long, hard cervix which was not dilated or effaced. The blood pressure was 130/60. Urinalysis showed a trace of protein with a few white blood cells and red blood cells on microscopic examination. The serum fibrinogen was 165 mgm per cent, hemoglobin 11.4 grams, hematocrit 37.5 per cent and the serology was negative. An indirect Coombs' test was negative. The albumin titer was positive in 1:1 dilution; the saline titer was negative. Intrauterine injection of 200 cc 50 per cent glucose in distilled water was done with no fluid return on aspiration. Uterine contractions began 11 hours later. After five hours' labor she delivered a two pound, five ounce macerated male fetus; the umbilical cord and placenta were intact. One ampule of Methergine was given intravenously after delivery. There was no excessive bleeding. Her subsequent course was uncomplicated and she was dismissed from the hospital on her third postpartum day.

DISCUSSION

This method of emptying the uterus following intrauterine death of the fetus has received considerable attention in the European literature. Recently more reports on

this method have been published in American journals.

There are obvious disadvantages to surgical emptying of the uterus after intrauterine death. Dilation and curettage, of course, is very useful in early pregnancies, however before 12 weeks' gestation intrauterine death or missed abortion rarely present major problems. After 12 weeks' gestation surgical emptying of the uterus requires hysterectomy. The disadvantage of this major surgical procedure is that of producing "an obstetrical cripple" so far as future pregnancies are concerned.

Inducing labor during the middle trimester of pregnancy is frustrating. The uterus is notoriously not responsive to Pitocin stimulation, with or without estrogen priming. The usual criteria for inducing labor are usually absent at this stage, *e.g.* two to three cm dilation with partial cervical effacement and an engaged presenting part. The relatively simple method of intrauterine injection of hypertonic solutions eliminates the obvious dangers and disadvantages of previous methods.

One of the first questions is how soon after the diagnosis of intrauterine death should the uterus be emptied? Clinical studies have shown that about 75 per cent of these cases will deliver spontaneously within two weeks from the date of fetal death and 90 per cent within the first three weeks. The remaining ten per cent however have a high rate of fibrinogen depletion with subsequent hemorrhage when the dead fetus is retained more than five weeks. The incidence of hypofibrinogenemia in this group has been reported to be approximately 33 per cent. Psychic trauma to the mother *may* be a considerably greater problem than the threat of hemorrhage. In the past, attempts to induce labor with intravenous Pitocin were sometimes frustrating because they required days of constant supervision of a very slow intravenous drip which did almost nothing. Recent studies have shown almost universal spontaneous onset of labor within 48 to 72 hours after injecting hypertonic solutions. If this method of treatment is proved to be without appreciable complications, as it apparently is, there is no reason not to empty the uterus as soon as a positive diagnosis is made. In various studies the onset of effective uterine

contractions has varied from three to 85 hours, with the majority less than 36 hours. In the cases reported here delivery occurred 12, 16 and 17 hours respectively after injection despite unfavorable conditions for the inductions. The ripeness or effacement of the cervix and the duration of gestation apparently are not important factors in the speed of the onset of labor and certainly they are not contraindications.

At present the mode of action of the injected hypertonic solution is not known. Apparently the injection damages large areas of the placenta resulting in rapid decrease of placental function. Since continuation of pregnancy depends on placental hormones, when they are rapidly decreased the uterus becomes irritable and goes into spontaneous labor rapidly. It has been speculated that the sudden decrease in progesterone is the precipitating factor, since the onset of labor can be delayed temporarily by injections of large quantities of progesterone intramuscularly. One inherent danger in the procedure to be considered is the injection of hypertonic solutions into normal pregnancies which react almost identically with injections into the uterus containing a dead fetus. In fact, according to the Danish Medical Bulletin, this is the procedure of choice for therapeutic abortion after the thirteenth week of pregnancy. The use of hypertonic solution for therapeutic abortions has been used widely and reported from the Scandinavian countries.

There are almost no reported side effects or complications resulting from the intrauterine injections of hypertonic solutions. When the injections are used for therapeutic abortion there is some decrease in effectiveness. In some series a failure rate from ten to 20 per cent has been reported. In each case however, repeat injections have resulted in the desired response. There is one report of amniotic fluid embolism with acute renal failure, non-fetal, following intra-amniotic injection of 50 per cent glucose solution by Lee and Frampton⁴ in 1964. This brief report from England speculates on an amniotic fluid embolism and anaphylactoid reaction as a result of the injection. This was an acutely ill patient who had been tried on prolonged induction of labor with Pitocin drip prior to the intra-amniotic injection.

The exact etiology of the anaphylactoid reaction certainly is open to question. There are no other reported cases of amniotic fluid embolism nor renal complications resulting from this procedure.

Some of the advantages of this procedure are (1) invariably the delivery is complete without necessity for dilation and curettage or danger of postpartum hemorrhage; (2) the psychic trauma of a long wait and prolonged induction period are reduced; (3) the hospital stay is short; (4) the recovery period is rapid due to the lack of operative intervention; (5) the danger of hypofibrinogenemia is almost completely eliminated; (6) actual labor is short and often precipitous rarely requiring anesthesia, episiotomy or operative intervention and last but not least, (7) the wear and tear on the obstetrician is considerably reduced with little more care required than the usual obstetrical patient in labor.

Three cases of intrauterine death are reported which were delivered following induction of labor stimulated by intra-amniotic injections of hypertonic glucose solution. The procedure is relatively simple, does not produce maternal side effects and has been found to stimulate the onset of labor rapidly and effectively. This procedure should do much to eliminate the hazards of prolonged intrauterine fetal death and should become a valuable tool in its management. ☐

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5700 N.W. Grand Blvd., Oklahoma City, Oklahoma

OSMA REGIONAL POSTGRADUATE COURSE

"The Small Intestine"

Trade Winds Motel

Muskogee, Oklahoma

April 27th, 1965

AFTERNOON SESSION

- 4:30 p.m. BASIC SCIENCE
A. Structure
B. Absorption
C. Motility
- 5:30 p.m. MALABSORPTION SYNDROMES
Jack D. Welch, M.D.
- 6:00 p.m. DIAGNOSTIC METHODS IN
SMALL BOWEL DISEASE
G. Victor Rohrer, M.D.

EVENING SESSION

- 7:30 p.m. RADIOLOGICAL DIAGNOSIS IN
DISORDERS OF THE SMALL IN-
TESTINE
Leonard E. Swischuck, M.D.
- 8:00 p.m. PROBLEM CASE CONFERENCE
Jack D. Welch, M.D.
G. Victor Rohrer, M.D.
Leonard E. Swischuck, M.D.

Registration \$7.50 includes dinner

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The Population Problem

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DOCTOR RILEY: At a recent symposium of prominent international scientists, it was concluded that the containment or control of world population and the prevention of nuclear war constitute the major problems facing the world today.¹ We have chosen for Pediatric Grand Rounds today a discussion of the problems relating to the population explosion. We will hear more specific details concerning this from various speakers shortly, but I want to introduce the topic by a few general comments.

*From the Department of Pediatrics, Children's Memorial Hospital, University of Oklahoma Medical Center, Oklahoma City, Oklahoma. Presented at Pediatric Grand Rounds, Children's Memorial Hospital, April 24th, 1964.

The world population, according to available records, doubled between 1850 and 1930. By 1975 it will have doubled again to total four billion people.² The human race is growing at a rate of 150,000 daily and the rate of increase now is seven times that of two centuries ago.³ The magnitude of the problem is even greater than this because only 33 per cent of the deaths and 42 per cent of the births in the world are actually reported.² This population increase has frightening consequences affecting the economic, political and social structures of individual nations as well as the world as a whole. As you will hear subsequently, the problem is most acute in the developing countries. Around 1700, the expectation of life at birth of the white population of North America or Western Europe was about 33 years and probably had increased very little during the preceding three or four centuries. In 1950, the expectation of life at birth of the population was 69 years, an increase of more than 100 per cent. Nearly all populations of Western and Central Europe have participated in this gain in longevity. Of course, life expectancy is even greater now. Thus, the population explosion, as pointed out by Will Clayton, formerly Under-Secretary of State, is a combination of a medieval birth rate and a twentieth century death rate.

The immediate problem is the imbalance between the rate of population growth and the knowledge, capital and resources to provide for the resulting increase in population. Few of us have the background neces-

sary to comprehend the implications of this prediction.

As citizens, we must obviously be acutely concerned with this problem. As pediatricians, our responsibility is even greater. For example, of the total population of 206 million in Latin America in 1960, approximately 50 per cent was made up of children. Between 1944 and 1962, the maternal mortality rate in the United States has been reduced 85 per cent and the infant mortality rate 36 per cent. This reduction in mortality as long as fertility remains unchanged makes for an increase in the proportion of children rather than an increase in older age groups in a population. The educational consequences of these changes are perhaps second only to the economic problem in importance. Thus, the selection of this topic for Pediatric Rounds is obvious and requires no additional explanation.

Doctor Paxton Howard will now give us some of the details from an epidemiologic and statistical approach to this problem.

DOCTOR HOWARD: I would like to take this opportunity to review with you the available statistics on world population, factors that influence population growth and the projected growth of population with its potential economic and political implications. Much of the statistical information which I will give you is derived from the publication "The Population Dilemma."²

Doctor Riley has shown the world population figures from the time of Christ. To this I would add the estimated life expectancy in Europe and America at each of these dates. In the year 1 A.D., the average life expectancy was 30 years; in the next 1850 years only 10 years were added; by 1930 life expectancy was up to 60 years, and the estimate for 1975 is 75 years. The reduction in mortality from infectious diseases of infancy, childhood, and adult life by improved sanitation, nutrition, housing, prophylactic vaccines, and finally antibiotics has been a major medical contribution to increased longevity to date. However, further control of various diseases will not contribute much to increased longevity. Indeed, total eradication of coronary artery diseases has been estimated to add only two to three

years, and the eradication of cancer less than two years in overall increase in longevity for our present population. Thus we can begin our discussion with the presumption that the death rate in industrial countries (usually below 10/1000 population/year) has reached a level that will make no further contribution to population growth. However, we shall examine the changing death rate in more detail as it relates to the underdeveloped areas of the world.

First, it is best to review the determinants of a country's population change—that is births, deaths, and migrations. Migrations have historically been quite important in relieving expanding populations and providing refuge for criminals, adventurers and minority groups searching for a better life. The last great land masses, Australia and South America, experienced peak migration before World War I. Since that time the world political situation has been unfavorable for migration and the influence of migratory masses has been of little significance in world population growth. For purposes of this discussion, we can disregard migration.

Traditionally, the natural checks on population growth have been (1) disease, (2) famine, and (3) war. In this century technological achievements have curtailed in part disease and famine and for the moment, war. These technological achievements have been developed at a low and steady rate in the industrialized areas of the world with a correspondingly gradual decline in the death rate. However, these advances have recently been applied to the nonindustrialized areas resulting in a precipitous decline in the death rate, a corresponding increase in life expectancy at birth, with a resulting enormous population growth without any change in the traditionally high birth rate. It is this recently-spawned population growth in underdeveloped countries that is the core of the population dilemma.

Table 1 demonstrates the current status of natural increase of population by continent. In this table, births minus deaths equals natural increase.

Since we have decided that migration is no longer an important factor in population dynamics, and since philosophically we are committed to reduction in disease and death

Table 1. Ratio of Births to Deaths During Two Periods.*

	1800		1950	
	Births	Deaths	Births	Deaths
Europe	35	28	16	10
Latin America	40+	36	40	12

All Expressed as Rates/1000 Population

*Derived from Reference (1).

rates, we must turn to factors which influence birth rates for an explanation of current population trends and for the answer to population control.

Table 2 examines the birth rate and doubling times for various areas of the world. These three groups are discernible on the basis of industrialization and population density. Europe and Japan are highly industrialized and densely populated. Voluntary regulation of birth has been necessary to avoid further increase in population density and deterioration of social conditions. The United States, Soviet Union, Australia, New Zealand, and Canada represent industrialized areas with low population density. Birth regulation is practiced voluntarily by most of its citizens because of changing social attitudes and the economic advantage of limited family size. Indeed, every nation that has changed from a rural-agrarian to an urban industrial society with extended public education has voluntarily limited its birth rate. Large families are economic assets in the former, but liabilities in the latter societies. The Afro-Asian and Latin American areas have a birth rate that is near maximum fertility and are experiencing precipitous drops in mortality. These are nonindustrial areas with varying population density. Africa has low population density and room for its expanding population. Latin America has a moderate amount of crowding, but much of its land is not inhabitable, so population expansion will cause a proportionate increase in crowding. Central America is growing most rapidly and is the most crowded of the Americas. The

Table 2. Birth Rate and Population Doubling Times For Various Areas of the World.*

	Birth Rate/ 1000 Population	Doubling Time
	15-20	50-100 Years
Europe and Japan		
United States, New Zealand,		
Russia, Australia and Canada	25	30-40 Years
Asia, Africa, Latin America	40	20-40 Years

*Derived from Reference (1).

Asian area is experiencing rapid population growth in what is already one of the most crowded areas of the world. It is this area than can least tolerate population growth since all of the available land is already in use and has been for centuries.

The problem spots are in Asia, Central America and South America in that order. It should be pointed out that presently two-thirds of the world's population lives in underdeveloped areas. In the past decade 80 per cent of population growth occurred in these areas. At the current rate of growth, four-fifths of the world's population will live in these areas in the year 2000. Indeed at present two-thirds of the world's population lives on seven per cent of the earth's land area—50 per cent of the earth's surface area is uninhabitable. With increasing crowding, nationalistic pressures for expansion will certainly maintain the threat of territorial aggression and war, especially in the politically unstable areas of Asia.

To understand the economic problems created by rapid population growth one other point must be made. That is, reduction in mortality reduces the average age of a population if the birth rate remains high. This is because mortality improvement selectively benefits children. Costa Rica and Sweden are two countries with comparable death rates, but vastly different birth rates. Costa Rica's birth rate (40/1000) was two times that of Sweden (20/1000) at the time these figures were obtained. The population pyramid of Costa Rica is representative of the other underdeveloped areas of the world. The economic problems of a population structure similar to Costa Rica's is obvious. Forty to fifty per cent of the population is less than 15 years of age and, therefore, are economically dependent. A rural agrarian society could tolerate such a situation, but if these areas are to make the transition to industrial economies, they must provide education and training for a large economically unproductive segment of its population. This is not possible.

Therefore, the hindrance to economic growth imposed by a rapidly expanding population can be summarized as follows:

1. As population growth continues, an increasing proportion of the population is economically dependent;

2. Available resources must be used for current consumption, rather than being invested for future economic growth;

3. As population expands the total national product must expand as rapidly just to maintain the standard of living or per capita income—this is difficult enough in our own country, and virtually impossible in an agrarian economy.

In summary, the problems of crowding and economic frustration which population expansion create in the underdeveloped areas of the world are potent fuel for political unrest and agitation. Insofar as world peace is concerned, these problems are important to our country and the Western World.

Although economists since Parson Malthus have debated the problem of population expansion, it has only been since World War II that any government had made an effort to educate their citizens in birth control practices. Historically, birth control was practiced in Europe long before reproductive physiology or contraception was known. The present low birth rate in Europe is totally voluntary without any governmental regulation. After 1950, Japan initiated a program of government encouraged birth control. Table 3 demonstrates its effectiveness. In addition, effective programs are in progress in India, Pakistan, Ceylon, Taiwan, and Puerto Rico.

It is of interest that there is no religious opposition to birth control from the Moslem, Hindu, Buddhist, or Confucian faiths. Indeed, the Roman Catholics are the only major religious group that oppose birth control. This is of importance mainly in Latin America, which contains one-third of the world's Catholics. The Catholic Countries of Europe (France, Italy, Spain, Portugal), using methods acceptable to the church, have had lower birth rates than the United States.

Table 3. Effectiveness of Japan's Government Sponsored Birth Control Since 1950.*

Year	Birth Rate	Death Rate	Natural Increase
1940	29.4	16.8	12.6
1950	28.2	10.9	17.3
1960	17.2	7.6	9.6

Expressed as Rates/1000 Population

*Derived from Reference (2).

Motivation and education are more important variables than religion in birth control in the industrialized world. However, in Latin America where education and birth control must be accomplished simultaneously, the opposition of the church may prove a real hindrance. In over half of the countries of Latin America, the majority of births are illegitimate. Efforts of government and church to reduce this illegitimacy rate without actually encouraging birth control would be a partial solution if effective.

The population status of the United States is also undergoing a rapid change and merits our attention. Our 1963 population of 190 million is the fourth largest in the world behind China, India and Russia, and represents one-sixteenth of the world population. At the current growth rate of three million per year, a child who is born today and who lives his expected 70 years, will see our population triple. In the half century, 1900 to 1950, the United States population increased from 75 million to 150 million. In the decade of the 1950's another six million were added without any significant change in the birth or death rate. It should be noted that these are absolute numbers, and not rates; furthermore, immigration has accounted for less than ten per cent of population growth during the last decade. The birth rate has been stable for the past 13 years, yet the total number of births has increased.

Some of the factors that influence total births and birth rates are as follows:

1. *Fertility*: There is no indication that American women are physiologically less fertile than others—the number of childless marriages had declined from 26.5 per cent in 1940 to 15 per cent in 1960. This represents both obstetrical advances and changes in attitude toward childless marriages.

2. *Age of Marriage and Conception*: The tendency in this country has been toward earlier marriage with the first child soon thereafter—the median age of primiparas in 1940 was 23 years; in 1960, 21.4 years. Thus, though the average family is larger now than it was 30 years ago, child bearing is completed sooner. Incidentally, the two to four child family is preferred by over 80 per cent of couples. Single child or greater than four child families have decreased in favor in all segments of the population.

3. *Marriage Rate*: Though marriage rates vary with the economic situation, there has been a trend toward more universal marriage. Social attitudes encourage marriage for all women regardless of career or station in life. The marriage rate is expected to boom in 1965 when the post-war children reach marriageable age.

4. *Number of Women in Reproductive Age*: Reduction in infant and maternal mortality inevitably increases the number of women in the child bearing age. Under current mortality conditions 97 per cent of children born in 1950 will reach age 20, and 91 per cent will reach age 50. The population pyramid of the United States will present ever increasing numbers of women entering the reproductive age.

5. *Abortion*: Although most medical and law enforcement authorities will admit that it is an important factor, abortion has had little open support in this country. Of interest is the fact that over half of abortions are done on married women.

6. *Illegitimate Births*: Two hundred thousand illegitimate births were reported in 1960 and the figure is increasing yearly. They account for two per cent of white births and 26 per cent of non-white births.

7. *Voluntary Contraception*: This has been well accepted by most segments of the population. Ninety-three per cent of Protestant and 83 per cent of Catholic couples have tried at some time to regulate fertility. It is reported that 50 per cent of these Catholic couples have relied solely on church-approved methods, the other 50 per cent on unapproved methods. Fertility regulation has been of equal effectiveness in both races in middle and upper classes. However, the lower class non-whites have not been successful in regulating fertility. Indeed the racial fertility differential has allowed the non-white population to increase 52 per cent from 1940 to 1960 while the white population increased only 34 per cent.

Other studies have demonstrated that successful contraception is directly related to educational attainment. The figures for excess pregnancies over the desired number in white females are as follows: For college graduates, eight per cent; high school graduates, 11 per cent; those with only high

school experience, 16 per cent; and those completing grade school 32 per cent.

In conclusion, let us examine the population problem in this country as it relates to both the public and the individual.

The public will be called upon to meet the needs of a rapidly growing urban society in the following spheres:

1. Increasing pressure on secondary schools.

2. Increase in expenditure for community facilities—freeways, sewers, air pollution control and recreational facilities.

3. A rapid increase in the marginally trained labor market—with chronic unemployment of five to seven per cent of the total work force and 15 to 20 per cent of the teenage work force, the prospects for employment of the marginally trained young person moving into the labor market are very poor.

4. The trend toward urbanization and suburbanization with concentration on the lowest income high fertility groups in the central core of the major cities will produce more economic, political and law enforcement problems for the urban areas.

5. At this time, 31 per cent of the population is under 15 and 39 per cent under 20; these groups are economically dependent in an industrial society, and the economy must bear their training.

The population problem as it relates to the individual is the problem currently known as poverty. It affects persons in the lowest socio-economic class. An over-crowded family is unable to provide the opportunity for education, good health, and satisfying growth. These problems are apparent to us all and need no further elaboration.

Obviously this is one of the major issues of our time that we as physicians can help decide for the benefit of mankind.

DOCTOR RILEY: Thank you, Doctor Howard, for that comprehensive review. I would like now to introduce Doctor Records so that we might hear about this from the standpoint of the obstetrician. I hope he will say something about the relative efficacy of various means of contraception.

DOCTOR RECORDS: Doctors Riley and Howard have presented statistics which clearly project the problem of population growth and the necessity for its control.

Next to the search for a lasting peace this is the most important problem facing the world today. The question is, "What is being done to solve this problem?" Doctor Howard mentioned that in some countries (India and Japan, among others), programs of government encouraged birth control are being carried out. It is to be hoped that other countries, including the United States, will follow suit.

In our country there is one organization which has been doing something about the problem for 30 years. This is known as Planned Parenthood—World Population. The international scope of this organization's endeavors has already borne fruit in some of the countries just mentioned that are encouraging their people to use family planning practices.

Planned Parenthood—World Population is a voluntary organization which has as its objective the dissemination of birth control information to all people to the end that every child born will be one that has been planned for by responsible parents. The organization works toward its objective by establishing and operating birth control clinics where all approved methods of fertility control are taught. This includes methods acceptable to all religious faiths. Over 230,000 patients were served last year in 249 such clinics throughout the United States. The patient load increased by 24 per cent over the previous year and has virtually doubled during the last five years.

Planned Parenthood—World Population also conducts research in human reproduction in its own Margaret Sanger Research Center in New York and supports many other investigations.

Education is the third arm of Planned Parenthood's attack on the problem. First it constantly seeks to educate the patients who come to its center, not only in family planning, but in preventive medicine and hygiene. For example, in most of the centers Papanicolaou smears are done as a part of the service. It carries an education program to the public at large both on a local and national scale to point up the pressing need of its work. It conducts education for medical students, nurses and physicians in

its own and in affiliated clinics and in hospitals throughout the country.

Planned Parenthood—World Population is supported entirely by voluntary contributions and in most communities it is an agency that is not included in the United Fund, so that its members must carry on the solicitation of funds independently.

There are two Planned Parenthood—World Population Clinics in Oklahoma, one in Tulsa and one in Oklahoma City. Efforts are underway to establish clinics in connection with county health facilities in other cities throughout the state. The Oklahoma County, the Tulsa County Medical Societies have passed resolutions recognizing the population problem as a proper concern of the medical profession and encouraging the dissemination of approved birth control methods, including those acceptable to all religious faiths.

It would seem that the medical profession in general would always be alert to provide such information for their patients. However, from studies of a number of surveys which have been made to determine the attitudes and actions of physicians with their patients, there would seem to be no widespread sense of obligation in the profession to educate people about family planning. Most doctors who answered the surveys expressed a willingness to inform patients about the subject if the patient should seek information. Allowing for the fallibility of such surveys, we must conclude that more doctors need to interest themselves in family planning and do something about it in their own practices.

Opinion generally is rapidly crystallizing to the view that while the efforts of privately supported organizations such as Planned Parenthood and individual efforts of physicians with private patients are of great importance in providing the impetus, they cannot be expected to do much more than scratch the surface of the problem. Family planning should be included in the services of the public supported health facilities, along with routine immunizations for contagious diseases and control of tuberculosis and venereal disease.

The recent action of Congress establishing birth control clinics in the municipal hospitals and maternity clinics of Washington,

D.C. and in appropriating money for this purpose is encouraging. In taking such a step Congress has set a precedent which will undoubtedly encourage the provision of these facilities to the needy at public expense in all of the states. We hope that our State Health Department and its County Health Directors will take notice of this great need which is truly their responsibility to fulfill.

Except to show one slide (table 4), I will not discuss methods of contraception which are available since this is covered in detail in other sessions devoted specifically to this subject. This is from a recent report by Goldzieher⁴ and shows the relative effectiveness of various methods.

DOCTOR RILEY: Thank you Doctor Records. The remarkable changes in population we have heard about today obviously have qualitative, as well as quantitative influences. Doctor Kirkman, do you have any comments on the possible genetic implications?

DOCTOR KIRKMAN: Perhaps we should keep in mind the possibility of causing, by selection, changes in the genetic make-up of the world population; specifically, changes that would work against the goals which have been outlined by many.

1. If methods of contraception are proposed that can be mastered only by persons with above-normal intelligence, then a selection against intelligence would exist.

2. If resistance to, say, ovulatory suppressors can occur, then physicians in succeeding generations may find increasing numbers of women are refractory to such drugs. Certain numerous instances of re-

sistance to drugs or insecticides have occurred with microorganisms and insects.

DOCTOR RILEY: The Committee on Science and Public Policy of the National Academy of Science¹ concluded that the overall task is to achieve universal acceptance of the desirability of planning and controlling family size and that an essential condition for the achievement of this objective is the awareness among people throughout the world that voluntary planning and control of family size can and will provide opportunities for all children and greater happiness for their parents. It recommended implementation of the following recommendations for the accomplishment of this objective:

1. Support of graduate and postdoctoral training in demography and in social and bio-medical sciences concerned with population problems should be increased.

2. Research laboratories for scientific investigation of the bio-medical aspects of human reproduction should be expanded.

3. International cooperation in studies concerned with voluntary fertility regulation and family planning is highly desirable, and the United States Government should actively participate in fostering such cooperation, working in coordination with appropriate agencies of the United Nations system whenever possible, and with other inter-governmental and non-governmental organizations whenever appropriate.

4. Programs in the United States for the training of family-planning administrators should be improved and enlarged.

5. A committee should be established by the National Academy of Sciences for the purpose of stimulating and coordinating programs directed toward the solution of problems of uncontrolled growth of populations. □

Table 4. Use-Effectiveness of Various Forms of Contraceptives⁴
Representative pregnancy rates (in pregnancies per 1200 months of exposure) with various forms of contraception.

Method	Range
No Contraception	150-200
Rhythm Method	14-35
Withdrawal	3-38
Douche	18-36
Condom	6-28
Diaphragm	3-34
Suppositories	8-42
Foam Tablets	6-49
Jelly or Cream	5-36
Oral Tablets	0-2.3

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Pathogenesis of Common Anemias

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*Anemia is a reflection of disease.
Only study of its true character uncovers
definitive diagnosis.*

ANEMIA IS NOT usually a primary disorder but a cardinal manifestation of disease in any of several systems. With few exceptions, every common type of anemia is a sign of disturbed function in tissues other than the bone marrow. The rare types of anemias are due to a primary disturbance in the erythroid tissue and are for the most part inherited and associated with an intra-erythrocytic defect that results in hyperhemolysis, ineffective red cell production or a combination of both processes. This review will discuss the current thinking of the disease processes that lead to common anemias.

In order for an anemia to develop, there has to be a fairly drastic alteration of the balance between production and destruction of circulating blood because the production capacity of the marrow under normal conditions can increase seven- to eightfold.⁹ Hence, if only a destructive process exists, the mechanism of red cell destruction must be sufficiently severe to overcome the marrow's capacity to compensate. On the other side of the balance, it is necessary to have a sufficient supply of critical building blocks and to maintain the integrity of biosynthetic pathways and factors regulating erythrocyte production in order to meet the usual daily requirements⁴⁸ as well as the increased demands of accelerated red cell production which may develop. These prerequisites may be interfered with in the marrow itself or they may be disturbed by disease in other organs.

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What constitutes the machinery of normal erythroid proliferation and hemoglobin synthesis as we understand it today? The so-called stem cell is thought to differentiate into a pronormoblast under the influence of the "hormone" erythropoietin.²⁴ This differentiation is followed by cell division that must be accompanied by synthesis of the genetic code carrying deoxyribonucleic acid that in turn directs the synthesis of globin and the production of specific enzymes geared for the normal rate of heme and globin synthesis. There is evidence forthcoming that erythropoietin also plays a role in the initiation and control of heme synthesis in the pronormoblast.^{30, 45} The study of a variety of anemias has established that a system of priorities seems to operate. Thus the erythropoietic biosynthetic machinery that is deprived of certain building blocks will show functional disturbances before disease is apparent in other tissues. The substances that are most vulnerable include iron, folic acid and Vitamin B₁₂. A deficiency or an interference with the metabolism and utilization of one of these substances will explain the development of an anemia in many clinical circumstances. The remaining group of common anemias encountered include the anemias associated with infection, uremia, liver disease and malignancy. For these the supply of specific building blocks is not the only disturbance and the pathogenesis appears more complex.

I. IRON DEFICIENCY ANEMIA.

By far the most common cause of anemia is the development of an iron deficiency. The normal iron content in the organism is only four to five grams, 73 per cent of this being within the red blood cell hemoglobin.⁴⁸ Iron absorption takes place mainly in the duodenum and is geared to closely equal the daily physiological loss of one milligram that occurs through the intestinal tract and by desquamation of skin. The rate of erythropoiesis

appears to correlate better with the rate of iron absorption than any other single factor. The biosynthetic machinery within the erythroid marrow is adapted to accept only iron bound to transferrin, at an optimal saturation of 30 to 45 per cent, and to utilize approximately 32 milligrams of iron per day in the synthesis of hemoglobin.

Blood loss is the most common cause of iron deficiency in adults. Inadequate dietary intake is the most common cause of iron deficiency in children and occurs regularly in those fed almost exclusively on cow's milk. An inadequate supply of iron occurs also in individuals with eccentric dietary habits, during the course of frequent pregnancies, and when there is intrinsic disease of the upper small intestine which interferes with absorption.²⁹ Achlorhydria and gastrectomy alone do not interfere significantly with iron absorption but may be of importance in recovery if an iron-deficiency state has developed from other causes. Disturbances in the iron transport mechanism are extremely rare. One well-documented case of atransferrinemia has been reported in a seven-year-old child.¹⁸ An inability to transport iron to the marrow in the presence of a normal concentration of serum transferrin has been described in two brothers who also showed extramedullary siderosis.⁴⁰

Since iron seems the most precious substance in the red blood cell, it is avidly conserved under normal conditions. As noted above, this conservation is interrupted by any type of blood loss. A loss of 2000 ml of blood (1000 mgm. of iron) is sufficient to exhaust one-fourth of the iron content of the body. Anemia usually develops when this amount of blood is lost, and if the loss is gradual, no symptoms may be experienced before the advent of the anemia. Later the patient may show papillary atrophy of the tongue, koilonychia, dysphagia and achlorhydria.

When blood loss is sufficient to result in anemia, the bone marrow is stimulated to increase its production rate. We believe that erythropoietin is the substance that evokes this erythroid hyperplasia.²⁴ With increased red cell production there is an obvious increase in the marrow's need for all of the red cell building blocks, specifically globin, protoporphyrin and iron. Where the only

deficiency is iron (loss through bleeding) the rate of red cell production is probably not limited by the individual cell's capacity to synthesize globin and protoporphyrin. Let us consider the situation as regards the supply of iron. As indicated above, the amount of bleeding and hence the amount of iron lost is critical to the development of an anemia and it must be sufficiently great to exhaust the body's stores of iron. Under these circumstances the individual red cell precursor must gain the iron needed for the synthesis of hemoglobin from that derived from the diet. It is true that the gut begins to absorb more of the ingested iron than it would normally but this is limited by its inherent capacity and by the iron content in the diet. Thus the relative amount of iron that is transported to the individual cell becomes reduced because more cells are demanding iron.²⁸ Under these circumstances the marrow turns out an erythrocyte that is morphologically small, distorted and poorly filled with hemoglobin. When the anemia is severe, survival studies of these defective cells show that their life span is reduced by approximately 25 per cent and the microcytes are sequestered and destroyed in the spleen. This increased destruction of the cells in the peripheral circulation further exaggerates the anemia. Recent work indicates that there is yet another hemolytic mechanism involved.³⁸ Under conditions of iron deficiency many of the erythroid precursors never reach the peripheral circulation but are hemolyzed within the marrow itself. This increased rate of intramedullary hemolysis is reflected in a delay in the iron's incorporation into circulating erythrocytes.

How are these altered mechanisms reflected in the usual laboratory studies? There is a disproportionate reduction in the total red count as compared with the hemoglobin content of the individual cell. This is reflected in the Wintrobe indices (low values for MCV,

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MCH and MCHC) and can be seen on the stained film of peripheral blood (microcytosis and hypochromia). The excessive intramarrow hemolysis results in a reticulocyte count that is less than one would expect for the degree of anemia present. The serum iron is low and the serum iron binding capacity is increased. The bone marrow shows small, distorted normoblasts with ragged and ill-defined borders. If one analyzes the red cell itself one finds an increased free protoporphyrin concentration but this is merely a byproduct of the defective hemoglobin synthesis and is not unique to iron deficiency. All of these findings are consistent with our current concept of the pathogenesis of the anemia of iron deficiency, namely, that it is a quantitatively inadequate and qualitatively defective response by the marrow to the anemia stimulus.

II. ANEMIA OF INFECTION.

Many profound metabolic alterations in the entire organism accompany chronic infections and inflammatory disease. The negative nitrogen balance with its weight loss is regularly appreciated. Anemia is only one of the manifestations of this widespread alteration in the metabolic processes of tissues and is observed in nearly all types of subacute and chronic inflammatory conditions. The degree of anemia varies and is proportionate to the severity and duration of infection and also to the number of infective organisms. In the presence of chronic infection of several months duration, the anemia progresses slowly but levels off at approximately six months when a compensatory reticulocytosis is noted. Thus the hemoglobin level is maintained at a relatively constant but low level and rarely is below seven to eight grams per cent. If the anemia is more severe than this, one should look for other etiologic factors complicating the infection.

Studies attempting to characterize the development of the anemia of infection suggest that there is an inadequate supply and utilization of iron for heme synthesis and, further, that globin synthesis is also disturbed.⁷ One of the earliest signs of the interference with iron metabolism is hypoferremia that develops. This may develop quite rapidly and is accompanied by a reduction of the iron-

binding capacity of the serum.⁴⁸ Thus we have a low serum iron-binding capacity but the per cent of saturated transferrin remains within the normal range. Tracer studies indicate that the iron is primarily retained in storage sites in the reticuloendothelial system and is not returned to the marrow to be incorporated into hemoglobin by the developing red cells within the marrow.^{12, 13}

Examination of the marrow of a patient with a chronic infection reveals normal cellularity but the erythrocytic precursors are in the basophilic normoblast stage of development. The presence of excess deposition of iron within the reticuloendothelial cells of the marrow also bears out the observation that iron cannot be properly utilized by the erythroid tissue. Either due to this inability to utilize iron or to other factors not understood, there is a quantitative defect in the rate of conversion of protoporphyrin to heme and heme to hemoglobin. This is reflected in the accumulation of free protoporphyrin in the mature red cells and in an increased urinary excretion of coproporphyrin. Evidence for specific disturbances in amino acid and protein utilization is fragmentary but this too undoubtedly exists.

These alterations indicate that the primary defect in the anemia of infection is in hemoglobin synthesis. By the anemia is characterized by a red cell that is normocytic, normochromic. Isotopic studies indicate that there is no uniform increase in red cell destruction. The rate of incorporation of intravenously injected radioiron is decreased, reflecting decreased production, and is roughly proportional to the severity of the infection.⁷ In infections of long duration, when the degree of anemia reaches a stable level, the cell may become microcytic and hypochromic. This suggests that eventually impaired hemoglobin synthesis as well as the rate of cell formation can become a prominent mechanism of this anemia. Occasionally iron therapy at this late stage may result in partial improvement.

III. ANEMIA OF UREMIA.

When uremia is due to renal insufficiency and lasts for any period of time, it is always accompanied by anemia. Again the anemia is roughly proportionate to the severity of the underlying disease. Characterization of the anemia of uremia has been difficult because

an infectious process within the renal parenchyma frequently is a contributing factor in the renal failure. Studies attempting to clarify a specific pathogenetic factor for the uremia itself have been hampered by our poor knowledge of what actually constitutes the uremia.

Red cell production appears to be suppressed by a factor or factors associated with the uremic state. *In vitro* studies have revealed that many aromatic acids that are retained in renal failure depress the activity of several enzyme systems.²¹ One can speculate that enzymes in erythroid tissue may be similarly affected. There are no specific clues from studies of iron metabolism, heme synthesis or globin synthesis to support this supposition except that definite but transient improvement in the utilization of iron by the developing red cell precursors has been observed indirectly after dialysis.³²

Examination of the bone marrow reveals normal total cellularity with a decrease in erythroid elements, a decrease in mitotic numbers in the erythroid series and a shift of the series toward the basophilic normoblast. Studies before and after dialysis have shown that this preponderance of basophilic normoblasts disappears after dialysis and a relatively normal differential in the erythroid series is restored for a short period.¹¹ Tissue cultures of normal marrow have shown that uremic serum causes a shift of the normoblastic series toward the more immature forms such as the basophilic normoblasts.⁴⁴ Thus those cells that differentiate into erythroid cells become arrested in maturation at an early stage.

Tracer studies with iron-59 show that incorporation of iron into peripheral red cells is uniformly decreased and this failure is proportional to the degree of uremia.³³ Increased intravascular and intramarrow hemolysis appear to play a less significant role in this as compared with iron deficiency. The red cell life span is normal or only slightly decreased and the cause for the slight excessive hemolysis is due to an extracorporeal cause. Autohemolysis of red cells in uremic serum can be demonstrated *in vitro* and this can be reduced by substances such as adenosine phosphates and glucose-6-phosphate.³⁴ These assays indicate that various glycolytic enzymes within the red cell may

be impaired by the retention of metabolic end products.⁴ These substances are also thought to produce the acidosis which characterizes uremic serum.

A close association between the kidney, the azotemic state and the levels of erythropoietin has been demonstrated.²⁵ The erythropoietin titer is uniformly low in uremic plasma.^{14, 37} When the exact mode of action of this hormone is known it should be possible to establish whether it is of primary importance in the impaired red cell production of uremia.

IV. MEGALOBlastic ANEMIA.

Megaloblastic anemia is nearly always due either to Vitamin B₁₂ deficiency or folic acid deficiency and it is recognized that these deficiency states are not rare. Due to the longer life expectancy of the general population pernicious anemia is now more frequently encountered than in the past. Modern diagnostic aids have greatly increased the early recognition of the various malabsorption states that cause the megaloblastic anemia of folic acid deficiency. Less commonly folic acid deficiency anemia is encountered in pregnancy, infancy, alcoholism and in individuals with peculiar dietary habits.

The normal storage capacity for folic acid appears to be such that the organism is protected against the development of an anemia for four to five months.¹⁹ As little as 50 micrograms has been demonstrated to meet the daily requirement for erythropoiesis. Absorption takes place in the small intestine and a normal diet contains one to five milligrams but the proportion absorbed and retained has not been conclusively determined. The primary role of folic acid in erythropoiesis is the synthesis of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). We see the impairment caused by a deficiency in folic acid in the rate of synthesis of purines and of thymidylic acid from uracil.²

The organism is better protected against a deficiency of Vitamin B₁₂ than folic acid. The usual dietary intake of Vitamin B₁₂ is at least one microgram per day. If one has normal intrinsic factor activity in the stomach and has a normal rate of absorption in the ileum one should possess adequate stores of the vitamin for as long as six years. Rarely does one have difficulty in the plasma

transport of this vitamin. Current evidence states that the major role which Vitamin B₁₂ plays in erythropoiesis is in the biosynthesis of deoxyribonucleotides from ribonucleotides. It is also necessary to convert folic acid to metabolically active forms. Finally, Vitamin B₁₂ may be involved in the biosynthesis of 1-carbon units that are needed to construct the methyl groups that are attached to uridylic acid to form thymidylic acid.²

In both, Vitamin B₁₂ and folic acid deficiencies, the pathogenesis of anemia is similar. Anemia develops when there is a defect in the supply of either vitamin. A megaloblastic maturation arrest in the erythroid precursors develops in the bone marrow that is characterized by a delay in nuclear maturation but little impairment in cytoplasmic maturation. Similar changes are observed in other rapidly dividing tissues such as the epithelial lining of the oral cavity and the gastrointestinal tract. At a molecular level, a lack of folic acid or Vitamin B₁₂ leads to impaired deoxyribonucleic acid synthesis. Consequently, cell division is slowed and the nucleus remains at an immature stage, but for unexplained reasons hemoglobin synthesis in the cytoplasm proceeds relatively normally. Probably because of fewer cell divisions during the maturation process, the end result is a normochromic macrocyte. The marrow attempts to compensate for the anemia as evidenced by marked hypercellularity with a preponderance of erythroid precursors. The immature cells are also functionally abnormal. There is a delay in the release of mature erythrocytes from the marrow and the rate of intramedullary hemolysis is exaggerated. The cells which reach the peripheral blood appear to have a normal life span in normal plasma but are subject to random destruction in the plasma of the patient with pernicious anemia. This implies an extracorporeal hemolytic factor that further aggravates the degree of anemia.

Certain interrelationships of Vitamin B₁₂ and folic acid in the pathogenesis of the anemia are of clinical significance.²⁰ It is now well established that the large pharmacological doses, usually prescribed of Vitamin B₁₂ or folic acid, will partly if not completely

correct the anemia caused by a deficiency of either vitamin. Thus an excessive dose of either vitamin may result in an apparent cure of an anemia whether it be due to folic acid or Vitamin B₁₂ deficiency. The interrelationship of the two vitamins is further reflected in a histidine load test that is abnormal in both deficiencies. This test is performed by giving the patient 20 grams of the amino acid histidine and measuring the urinary excretion of an intermediary metabolite of histidine, formiminoglutamic acid (FIGLU) that cannot be further metabolized in the absence of an adequate supply of metabolically active folic acid.⁵

V. ANEMIA OF CHRONIC LIVER DISEASE.

Anemia is a manifestation of chronic liver disease in approximately 80 per cent of patients. In a portion of these it is more apparent than real since an increase in plasma has been demonstrated in these patients,¹⁷ so that the actual incidence falls to approximately 50 per cent. Blood loss very commonly accompanies liver disease. If it is of sufficient duration an iron-deficiency anemia will be manifest. Provided other superimposed processes such as blood loss, infection, uremia, etc. eliminated, the anemia can be said to be due to depressed erythropoietic activity and/or hemolysis and it may be difficult to establish which of these is of primary importance in a given case. Nor is the degree of anemia proportional to the severity of the liver disease.

Dynamic measurements employing isotopes to assess the primary process responsible indicate that there is increased production of red cells by the marrow but this is not equal to the capabilities possessed by the normal marrow for similar degrees of anemia.¹⁵ This observation implies a destructive process as well as impairment in marrow function. Which process is fundamental has not been explained. Survival studies demonstrate a shortened survival time of the peripheral erythrocytes that is apparently due to an extracorporeal hemolytic mechanism. In certain instances a folic acid deficiency coexists and this results in the development of a severe degree of anemia.^{26, 27, 41} Inadequate dietary intake of this vitamin is commonly encountered in alcoholics. Impaired capacity of the liver to transform dietary folic acid

to its metabolically active forms may be another cause.^{6, 35} Lastly, alcohol exerts a direct inhibitory effect on hemopoiesis probably by directly affecting folate metabolism.⁴⁶ In rare instances, a Vitamin B₁₂ deficiency is documented on a nutritional basis because of failure of alcoholics to eat meat without the usual cause, namely, impaired absorption, being present.³¹ Such individuals are severe alcoholics and have usually consumed a very poor, vegetarian diet for prolonged periods of time. If a hemolytic process dominates the picture, it will be associated with jaundice, hyperlipemia, hypercholesterolemia and fatty infiltration of the liver (Zieve Syndrome). Lipids seem to be responsible for evoking the hemolytic process.⁴⁹

The morphology of the red cells in liver disease, even in the absence of anemia, is fairly typical. These cells are thin macrocytes which are often polychromatophilic, stippled and in target forms. These abnormalities parallel the severity of the liver disease and are reflected in the marrow morphology. Here there is hypercellularity with a "macronormoblastic proliferation." How these morphological changes come about biosynthetically is not understood. A definite functional disturbance of the abnormal mature erythrocytes is suggested by some workers but not fully clarified. When portal hypertension coexists and/or there is splenomegaly, the liver disease macrocyte may succumb to premature destruction due to exaggerated stasis of blood in the spleen.³⁶

Studies of the anemia of liver disease have characterized a number of abnormalities but knowledge of its etiology is totally lacking. It is tempting to speculate that the liver has a role in normal erythropoiesis that may not be identified except by further study of the disease process.

VI. ANEMIA OF MALIGNANCY.

Although the occurrence of anemia in neoplastic disease is frequent and easily recognized, an understanding of the pathophysiology has developed slowly. The early theory was that the anemia was a result of replacement of normal marrow space by tumor cells since extensive metastatic involvement of the bone marrow can often be demonstrated anatomically. More recent evidence has helped to indicate that factors other than simple tumor replacement are responsible.

The frequent superimposed complications that accompany malignant disease make manifestations of the anemia more varied. Thus, blood loss that may not be obvious may lead to iron depletion. Another common factor in the development of anemia in the cancer patient is the presence of chronic infection or uremia. One must consider the effect of radiotherapy and chemotherapy in a patient with malignant disease. Anemia resulting from ionizing irradiation is characterized by decreased amino acid incorporation into deoxyribonucleic acid of red cell precursors,⁸ cell death in mitosis and increased hemolysis.⁴² Chemotherapeutic agents nearly always have some adverse effect on normal tissue, regardless of their mechanism of action, and this is especially evident in the rapidly dividing tissue of the bone marrow.

Once these associated processes are eliminated, more direct effects of the malignancy on erythropoiesis can be evaluated. Marrow replacement is frequently a partial cause of the anemia but such "mechanical crowding-out" by tumor cells has been overemphasized. Inasmuch as 50 per cent of cases with severe, anatomically demonstrable invasion of the marrow by malignant tissue no anemia may be found.⁴³ What other factors might explain the development of anemia can be partly speculated upon and partly supported by experimental evidence. A "tumor toxin," a humoral breakdown product of tumor tissue that could depress erythropoiesis has been postulated. This is poorly understood and not conclusively demonstrated.

A decreased production rate is evident as assessed by the per cent utilization of iron-59.^{23, 47} At times impaired production is found to be absolute and plays the main role. In other cases it is only relative and inadequate to compensate for an accelerated destructive process of circulating red cells. Lastly, a destructive process alone may be at play and then the per cent incorporation of iron-59 is normal.^{3, 22, 39} Cross-transfusion experiments indicate that the mechanism of the increased red cell destruction is extracorporeal. The dangers involved in plasma transfusion studies have prevented further evaluation of what the extracorporeal factor might be. *In vitro*, hemolysins have been demonstrated.¹

From immunological studies it is inferred that an autoimmunization is a significant factor in hyperhemolysis of neoplastic disease. Autoantibodies have been demonstrated in patients with carcinoma of the stomach, ovarian and dermoid tumors, etc. In such cases the mechanisms of anemia have been attributed to (a) a hemolytic effect of the metabolites of the tumor, (b) splenomegaly when present, (c) possible abnormalities in the erythrocytes and (d) antibody arising in the tumor tissue.¹⁰ That the tumor is responsible is often proven by correction of the hemolytic process after treatment or removal of the primary lesion. Corticosteroid therapy and splenectomy have not been rewarding except in the malignant diseases involving the lymphoid tissue where an auto-immune mechanism is perhaps more likely and thus susceptible to such therapy.

Aside from a presumed "toxic depression" of erythropoiesis and hyperhemolysis, certain subtle mechanisms of the anemia are related to deficient intake and absorption of nutrients. How erythropoietin may affect the pathogenesis of anemia of malignancy is under investigation. Since it appears to be a specific humoral agent promoting erythropoiesis, any interference with its site(s) of production or its site of action may alter normal red cell production. □

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800 N.E. 13th, Oklahoma City, Oklahoma

ABSTRACTS

CURABLE HYPERTENSION

A 27-year-old housewife was cured of bouts of hypertension and edema by nephropexy. The initial hypertensive episode occurred during her second pregnancy when she was 21-years-old. There was a recurrence two years later with the third pregnancy. Two months after delivery, hypertension, massive edema and grand mal seizures necessitated hospitalization. The edema and hyperpiesia vanished with three days of bed rest, but during the next four years she continued to have episodes of edema and hypertension which were treated with chlorothiazide and/or mercurial diuretics. At the age of 27 she was again placed in the hospital because of a grand mal seizure, headaches and massive edema. The blood pressure was then 200/120 and 2+ periorbital and 4+ dependent edema were noted. The blood urea nitrogen and urinalyses were normal. With bed rest and diuretics, the edema disappeared and the blood pressure fell to 130/80. Over the next five months she was observed as an outpatient at University Hospitals during which time there were episodes of sudden weight gain up to 20 lbs. and fluctuations in blood pressures from 140/100 to 180/110. Serum sodium tended to be elevated (148-155 mEq./L.) and potassium (2.8-3.6 mEq./L.) low. Urinalyses and blood urea nitrogen determinations were within normal limits.

She was finally admitted to University Hospitals where exhaustive laboratory studies were undertaken. Physical examination showed that the lower poles of both kidneys were palpable on deep inspiration, and excessive mobility of these organs on change of position was subsequently confirmed radiologically. Intravenous urograms taken upright and supine showed both kidneys to be 5-6 cm. lower in the upright position, and aortography showed that a major branch of the right renal artery did not fill when the patient was upright. Aldosterone secretion was low normal (6 mcg./24 hrs.) with the patient supine, but rose to 33 mcg./24 hrs. (twice normal) when she was up and about. On the basis of these and other findings, it was decided that ptosis of the kidneys was inducing renal ischemia when the patient was upright and a nephropexy was performed. Surgery relieved all symptoms, and the blood pressure has since been stable at 120-130/65-75 mm.

REVIEWER'S NOTE: Space limitations of an abstract preclude a complete description of all studies done in this workup and the original article should be read by all. It would probably not be necessary for the general practitioner to go beyond x-ray studies of the kidneys in the upright and recumbent positions to screen out likely cases, which might then be referred elsewhere for more elaborate studies. Doctors Ginn and Parry have demonstrated one cause and cure—not control—of hypertension. How many similar cases have not yet been recognized?

Postural Hypertension and Edema Caused by Excessive Mobility of the Kidneys. H. Earl Ginn, Jr. and William L. Parry. *Southern Medical Journal* 57: 739-745 (July) 1964.

RENAL A-V FISTULA

At the age of 14, a young man absorbed a .22 caliber rifle bullet in his left flank and thereby occasioned the removal of 13 inches of small intestine. Ten years

later he was admitted to the University of Illinois Hospital for the evaluation of blurred vision, headaches, and blood pressures measuring 220/140 in the arms and 300/150 in the legs. There was moderate cardiac enlargement and a systolic murmur was heard along the left sternal border. Plain films of the abdomen showed a bullet lodged adjacent to the first lumbar vertebra. An intravenous pyelogram showed prompt dye excretion bilaterally and a Howard test showed equal sodium excretion from both kidneys, but the volume of urine secreted by the right kidney was only half of that from the left. An aortogram showed a normal left renal artery, and a right renal artery opening into numerous dilated vascular spaces. Auscultation of the right costovertebral area turned up a continuous bruit.

A transabdominal surgical procedure was undertaken, and at operation a thrill was palpable in the lower two-thirds of the right kidney, and the renal vein pulsated visibly. The organ was removed and gross sectioning disclosed several large-bore communications between the renal artery and vein. Postoperatively, the patient continued to be hypertensive, but his blood pressure was subsequently controlled reasonably well by drugs.

Renal A-V fistulae may be of congenital, traumatic, or neoplastic origin, and whatever their etiology they usually induce hypertension, cardiac insufficiency and have a bruit audible in the affected area.

REVIEWER'S NOTE: The cause of this patient's fistulae is uncertain, and to what measurable extent he was helped by his surgery is not clear, for his hypertension and its attendant train of pathology continued to flower gloriously until treatment with powerful antihypertensive drugs was instituted. Indeed, it is not certain whether or not his kidney was responsible for the hypertension; nevertheless, the physiologic hazards accompanying A-V shunts are well known, and nephrectomy was clearly justified.

Arteriovenous Fistula of Renal Vessels: Report of a Case Believed to be Congenital and Review of the Literature. LeRoy Long, Hushang Javid, and Ormand C. Julian. *Annals of Surgery* 160: 239-244 (August) 1964.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Hearing and Related Problems in Childhood. E. A. Walker, Jr., *Clinical Pediatrics*, 3: 414, 1964.

Alteration of Vascular Responses to Endotoxin by Adrenergic Blockade. C. M. Brake, T. E. Emerson, L. E. Wittmers, and L. B. Hinshaw. *American Journal of Physiology*, 207: 149, 1964.

Cardiovascular Effect of Oxytocin in Rodents and a Marsupial. Jiro Nakano. *Proceedings of the Society for Experimental Biology and Medicine*, 115: 707, 1964.

Independence of Galvanic Skin Response Amplitude and Sweat Production. R. Edelberg, *Journal of Investigative Dermatology*, 42: 443, 1964.

Effects of Flow Rate, Venous Pressure, Metabolites, and Oxygen Upon Resistance to Blood Flow Through the Dog Forelimb. F. J. Haddy and J. B. Scott. *Circulation Research*, 15: 49, 1964 (Supplement 1).

Reprints of the above publications are usually available on request from the senior author, c/o Mrs. Joan Campbell, Veterans Administration Hospital, 921 N.E. 13th Street, Oklahoma City, Oklahoma.

Steroids and Bacteremic Shock

ROBERT M. DAUGHERTY, JR., M.D.

The use of adrenocortical hormones in clinical medicine has become wide-spread. They are used as replacement therapy and adjuvant therapy in chronic diseases as well as in the acute treatment of shock. The efficacy of rapid acting corticosteroids in the treatment of anaphylactoid and Addisonian shock is well appreciated. However, the value of these rapid acting steroids (*i.e.*, hydrocortisone) in the treatment of shock from other causes is not well documented.

The use of hydrocortisone in the treatment of bacteremic shock has achieved widespread popularity. The steroids have been advocated in conjunction with vasopressor drugs. The use of steroids in conjunction with vasopressors in bacteremic shock has resulted from two primary assumptions: 1) in some way the steroid potentiates the pressor effects of these drugs, and 2) the steroid obviates the severe antigen-antibody reaction which indirectly may be the cause of the shock. The first assumption arises from the observation that administration of steroids in large doses to normotensive subjects for

periods of at least 48 hours produces an exaggerated blood pressure response to intravenous vasopressors. The second assumption is based on the concept that bacteremic shock is the result of either a severe inflammatory reaction or an antigen-antibody reaction. One important and well documented action of the corticosteroids is the suppression of the systemic reaction to inflammation as well as the inhibition of antigen-antibody reactions.

There is a paucity of clinical or experimental studies to support the hypothesis that steroids are of value in bacteremic shock. In an attempt to delineate the etiology of the shock as well as the efficacy and possible mechanism of steroid action, retrospective clinical evaluations have been made. These retrospective studies suggest that hydrocortisone-vasopressor combinations have therapeutic value.

The vasopressor of choice is primarily dependent on the experience of the physician. Levarterenol (Levophed) and metaraminol (Aramine) are often selected and given in amounts that will increase the arterial pressure to normotensive values. Large amounts

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Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

of steroids are advocated in combination with the pressor agent. Weil *et al.*⁴ suggest an initial 200 mgm intravenously followed by 100 mgm every four to six hours. When the cardiovascular system has regained its stability the steroid is discontinued.

A recent study⁵ done in the Department of Physiology at the University of Oklahoma Medical Center, in association with W. N. Palmer, J. Bairrington and J. B. Scott, demonstrated that the resistance to blood flow through the dog forelimb vascular bed was not altered after 17-hydroxycorticosterone (Hydrocortisone) had been infused into the brachial artery for 30 minutes at 1.58 mgm/min. In addition, the response of the vasculature to vasopressors was not altered. In this set of experiments the dog's brachial artery was perfused at constant flow with femoral artery blood while monitoring the brachial arterial perfusion pressure and systemic blood pressure. Before and during the 30th minute of the hydrocortisone infusion, epinephrine, levarterenol (Levophed) and angiotensin II were injected separately into the perfusion system. The dose of vasopressor injected was too small to cause a systemic blood pressure effect but it did constrict the forelimb vascular bed. Comparison of the local pressor response before and during the steroid infusion permitted a decision on whether or not hydrocortisone potentiated the response of the peripheral vasculature to the vasopressors. The pressor response before hydrocortisone was not different from the response after 30 minutes of steroid infusion. Also, the resistance to blood flow through the local vascular bed was not altered by the steroid infusion. This study indicates that the steroid does not have an acute effect on peripheral resistance or sensitivity. However, it is possible that the amount of steroid infused was too small to affect these parameters. In addition, the study was performed with the dog in a normotensive state.

A possible mechanism for the increased sensitivity to vasopressor agents seen following chronic steroid administration may result

indirectly through changes in electrolytes and pH. Following long term intravenous administration of corticosteroids, the plasma potassium and magnesium concentrations will decrease while the plasma calcium, sodium and pH will rise. Berget and Visscher¹ reported that the pressor effects of epinephrine are potentiated when the plasma pH is elevated. Further, Haddy *et al.*² have reported that the combination of hypokalemia, hypomagnesemia, hypercalcemia and alkalosis will constrict peripheral blood vessels. Therefore, it is conceivable that the combination of secondary electrolyte and pH changes might produce the pressor potentiation seen after chronic steroid administration. It seems unlikely that short-term steroid administration would produce these secondary electrolyte and pH changes. In the previously described study,³ we found no changes in forelimb venous plasma $[K^+]$, $[Ca^{++}]$, $[Na^{++}]$, $[Cl^-]$ or pH, after 17-hydroxycorticosterone had been infused intra-arterially for 30 minutes. If acute steroid administration in bacteremic shock does potentiate the pressor response, perhaps it is related to the steroid suppression of the antigen-antibody reaction or the suppression of the severe inflammatory reaction. The suppression would allow the cardiovascular system time to regain its previously healthy state. After several hours of steroid therapy, electrolyte and pH alterations may occur resulting in a vasopressor augmentation.

If the clinician uses steroids in the treatment of bacteremic shock, he should be aware of the fact that their value has not been thoroughly evaluated. Also, the mechanism of any possible beneficial effect remains obscure. □

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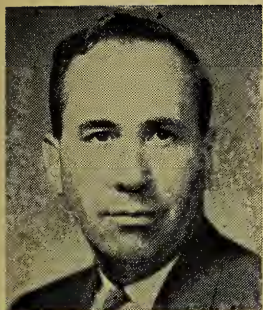
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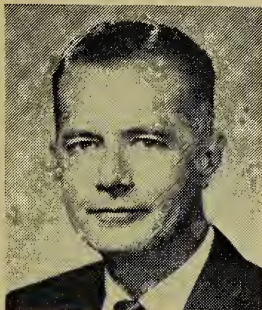


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Digest of Events

TULSA ASSEMBLY CENTER

The 59th Annual Meeting of the Oklahoma State Medical Association is being held for the first time in Tulsa's beautiful new Assembly Center, a multi-million dollar show-piece designed by famed architect Edward Stone. Located in the civic center just one block from the headquarters hotel, The Mayo, its specialized convention facilities also include convenient parking for hundreds of cars. All scientific and business sessions of the 1965 OSMA Annual Meeting, as well as the technical and scientific exhibit, will be at the Assembly Center.

HOTEL ACCOMMODATIONS

Headquarters for the 59th Annual Meeting will be The Mayo, Tulsa's largest and finest hotel, where a block of attractive rooms and suites have been reserved for convention visitors. Members of the Oklahoma State Medical Association are requested to make their own reservations by writing directly to The Mayo, Fifth and Cheyenne, Tulsa. Please state arrival and departure dates and times, and the type of accommodations desired. Reservations will be promptly confirmed by The Mayo.

GENERAL REGISTRATION

Registration will open Friday, May 14th, at 8:00 a.m. on the third floor of the Tulsa Assembly Center. Separate registration facilities for members of the OSMA House of Delegates will be provided.

BOARD OF TRUSTEES

The Board of Trustees of the Oklahoma State Medical Association will meet on Thursday, May 13th, at 2:00 p.m. in the Pompeian Court of The Mayo. The annual social hour and dinner of the Board of Trustees will be at 6:30 p.m. in the Emerald Room of The Mayo.

HOUSE OF DELEGATES

The opening session of the annual meeting of the House of Delegates of the Oklahoma State Medical Association will be called to order at 9:00 a.m. on Friday, May 14th,

in Room 2 of the Tulsa Assembly Center. Doctor Donovan F. Ward of Dubuque, Iowa, President of the American Medical Association, will address the first session.

The closing session and election of officers will be at 9:00 a.m. on Saturday, May 15th, in Room 2. Each of the two daily sessions is expected to adjourn by noon.

All items of business will be referred by the Speaker of the House of Delegates to appropriate reference committees. Open hearings on all resolutions and reports will begin at 4:00 p.m. on Friday afternoon, May 14th. The four reference committee meetings will be in Room A, the Emerald Room, the Metropolitan Room, and the Studio Room of The Mayo. Any member of the Oklahoma State Medical Association is welcome to attend and express his views. The reference committees will then go into executive session for the purposes of preparing reports and recommendations to the House of Delegates.

SCIENTIFIC SESSIONS

The scientific portion of the annual meeting program will be held all day Friday and Saturday, May 14th-15th, in Room 1 at the Tulsa Assembly Center. The meeting room is on the third floor, and all convention visitors enter through the Scientific and Commercial Exhibit area.

The scientific program will feature a series of unusual seminars, each devoted to a specific area of clinical medicine or surgery. Presentations by visiting distinguished guest speakers and members of the Oklahoma State Medical Association will be followed by discussion periods.

Inaugurating the scientific session will be a Seminar on What's New in Radiology on Friday morning, May 14th, at 9:30 a.m. The afternoon session, beginning at 2:00 p.m., will feature a Seminar on What's New in Clinical Medicine.

The program for Saturday, May 15th, opens at 8:30 a.m. with showings of new medical and surgical motion pictures. A Seminar on Treatment of Cardiac Arrhythmias is scheduled at 9:00 a.m. This will be followed immediately by a Seminar on What's

New in Cancer Chemotherapy at 10:30 a.m. The concluding scientific session will be a Seminar on Recent Progress in the Treatment of Pulmonary Diseases at 3:30 p.m.

The complete scientific program for the 1965 OSMA Annual Meeting begins on page 152.

ROUNDTABLE LUNCHEON

Visiting guest speakers will lead informal discussion sessions at a roundtable luncheon on Saturday, May 15th, at 12:15 p.m. in the Pompeian Court of The Mayo. OSMA members may choose from ten large tables, each presided over by a moderator and guest speaker. Opportunities for the exchange of scientific comment and opinion will be afforded throughout luncheon. Tickets are \$2.75 per person and should be purchased at the General Registration desk in the Tulsa Assembly Center at the time of registration.

PETER E. RUSSO MEMORIAL CONFERENCE ON MEDICINE AND RELIGION

The Second Annual Peter E. Russo Memorial Conference on Medicine and Religion will be held on Saturday afternoon, May 15th, at 1:45 p.m. A panel of distinguished clergymen and medical leaders will explore the relationship of the doctor, minister and patient in illness. Named in memory of the late Doctor Peter E. Russo of Oklahoma City, this meeting will be open to clergymen, physicians and their wives. A complete program for the Second Annual Peter E. Russo Memorial Conference on Medicine and Religion appears on page 153.

MEDICAL-LEGAL CONFERENCE

A special event of the 59th Annual Meeting of the Oklahoma State Medical Association will be a Medical-Legal Conference to be held on Sunday, May 16th, at 10:00 a.m. in Room 1 of the Tulsa Assembly Center. A panel of prominent jurists, attorneys and physicians will discuss the doctor-lawyer relationship, conduct of physicians in court, and prevention and defense of malpractice actions. A question and answer forum will conclude this session.

TECHNICAL AND SCIENTIFIC EXHIBITS

Forty displays by firms whose products and services are of interest to Oklahoma phy-

sicians will be housed in the Exhibit Assembly Hall on the third floor of the Tulsa Assembly Center, immediately adjacent to the scientific and business sessions.

In addition, there will be twelve scientific and institutional exhibits interspersed with the technical exhibits. A complete list of scientific and technical exhibitors appears on pages 158 and 159. Exhibit hours are 9:00 a.m. to 5:00 p.m. on May 14th-15th, and 9:30 a.m. to 12:30 p.m. on Sunday, May 16th.

DRAWINGS FOR FREE TV, RADIOS

An attractive Sony portable television set and a transistor radio will be given away at the close of the scientific session on Friday, May 14th, and again on Saturday, May 15th.

To be eligible for the drawing, a physician must have an Exhibits Attendance Card, obtainable at the time of registration, signed by the representative at each of twenty or more of the technical exhibits. The winner must be present at the time of drawing.

PRESIDENT'S INAUGURAL DINNER-DANCE

A delightful social highlight of the 1965 Annual Meeting will be the President's Inaugural Dinner Dance on Saturday evening, May 15th, in the Crystal Ballroom of The Mayo. A social hour at 6:30 p.m., featuring a variety of highballs and mixed drinks, will be followed by a delicious buffet dinner with a wide selection of meats, vegetables, salads, desserts and drinks.

Following dinner and the inauguration of Rex E. Kenyon, M.D., Oklahoma City, as President of the Oklahoma State Medical Association, guests will be entertained by the Bison Glee Club and associated artists from Oklahoma Baptist University of Shawnee. This outstanding singing group which is entertaining in Europe this year provides 45 minutes of outstanding musical entertainment.

Dancing to the exciting rhythms of Marjean Fox and Her Orchestra begins at 9:00 p.m. and continues to 1:00 a.m. Set-ups will be furnished free of charge, but physicians should bring their own liquor for use during the dance.

Tickets for the social hour, dinner, inaugural ceremonies, Bison Glee Club entertainment, and the Marjean Fox dance are only

\$7.50 per person. They may be ordered now from: Convention Headquarters, Oklahoma State Medical Association, 104 Utica Square Medical Center, Tulsa, Oklahoma. Please make checks payable to: Oklahoma State Medical Association. Tickets which remain unsold will be available at the general registration desk in the Tulsa Assembly Center.

PAST-PRESIDENTS' BREAKFAST

The traditional breakfast for former Presidents of the Oklahoma State Medical Association will be held on Saturday, May 15th, at 8:00 a.m. in Room B of The Mayo.

AUXILIARY MEETING

The Woman's Auxiliary to the Oklahoma State Medical Association will meet May 14th-15th at The Mayo. A complete program is published on pages 181 to 184.

GOLFING

Guest golfing privileges at Oaks Country Club on Friday, May 14, can be arranged for physicians who are members of PGA country clubs. Please inquire at the registration desk for complete information.

RELATED MEETINGS

OKLAHOMA STATE RADIOLOGICAL SOCIETY

The Oklahoma State Radiological Society will hold a dinner meeting on Friday, May 14th at 6:30 p.m. in Room B of the Mayo Hotel.

OKLAHOMA SOCIETY OF INTERNAL MEDICINE

The Oklahoma Society of Internal Medicine will hold a dinner meeting on Friday, May 14th at 7:00 p.m. in the Terrace Room of the Mayo Hotel.

OKLAHOMA SOCIETY OF ANESTHESIOLOGY

The Oklahoma Society of Anesthesiology will meet on Sunday, May 16th at 10:00 a.m. in the Ivory Room of the Mayo Hotel.

AMERICAN COLLEGE OF SURGEONS

The Oklahoma Chapter of the American College of Surgeons will hold a Cocktail Buffet Party on Friday, May 14th, at 6:30 p. m. in the Executive Suite of the Petroleum Club, Sixth and Boulder Streets.

ARKANSAS MEDICAL ALUMNI ASSOCIATION

The University of Arkansas School of Medicine Alumni Association will meet on Friday, May 14th at 6:30 p.m. for a dinner meeting, featuring Doctor Donovan F. Ward, President of the American Medical Association, as guest speaker. This will be in the French Room of the Mayo Hotel.

CHRISTIAN MEDICAL SOCIETY

The Christian Medical Society will meet on Saturday, May 15th for a breakfast meeting at 7:30 a.m. in the Metropolitan Room of the Mayo Hotel. Doctor Martin Andrews, International President of the Christian Medical Society, Oklahoma City, will be the principal speaker.

CLASS OF '55 REUNION

The Class of 1955 of the University of Oklahoma School of Medicine will hold a Ten-Year reunion dinner on Friday, May 14th at 6:30 p.m. at the Trade Winds Motel.

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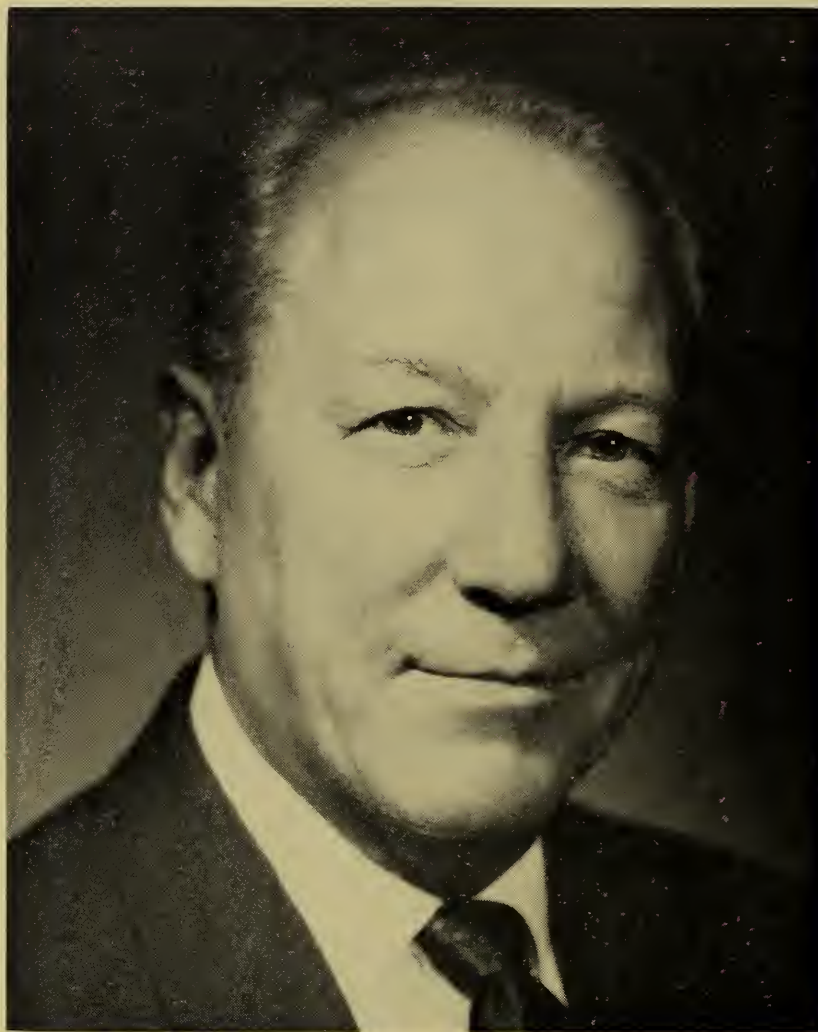
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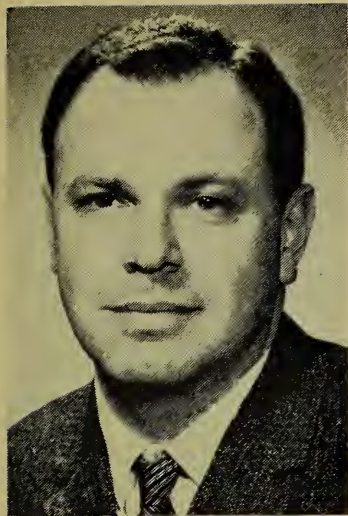


Distinguished Guest Speakers



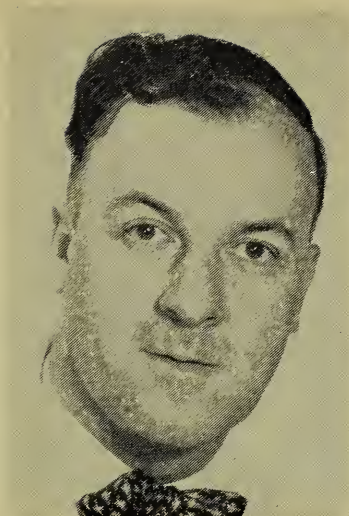
DONOVAN F. WARD, M.D.
Dubuque, Iowa

President, American Medical Association. M.D., University of Iowa School of Medicine, 1930. Fellow, American College of Surgeons. Fellow, International College of Surgeons. Member of the AMA House of Delegates, 1954-63. Co-author, Iowa Cancer Manual. Professional Education Committee, Iowa Division of the American Cancer Society. Chief of Surgery, Finley Hospital of Dubuque, Iowa.



PAUL H. BLACK, M.D.
Bethesda, Maryland

Senior Surgeon, United States Public Health Service, National Institutes of Health. Visiting Physician, National Institute of Allergy and Infectious Diseases. Diplomate, American Board of Internal Medicine. M.D., Columbia University College of Physicians and Surgeons, 1956. Intern and Residency Training at Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts.



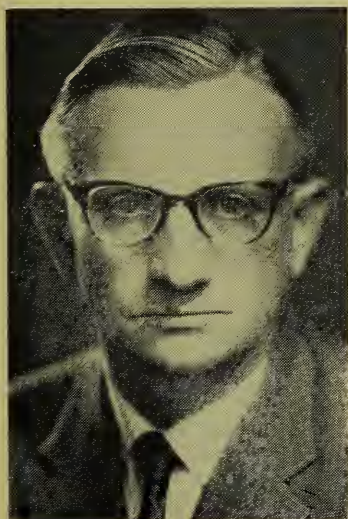
DAVID H. CARR, M.B., Ch.B.
London, Canada

Associate Professor of Anatomy, University of Western Ontario Faculty of Medicine. M.B., Ch.B., University of Liverpool, 1950. Rotating Internship, University of Liverpool, 1950-52. Residency Training in Medicine and Dermatology, Winnipeg and Montreal, Canada, 1952-54. In private practice, 1954-58. University of Western Ontario Faculty of Medicine since 1958.



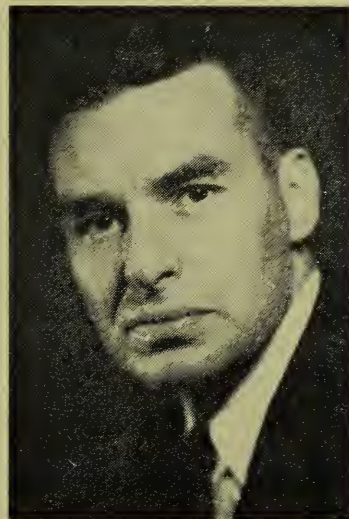
F. E. GREIFENSTEIN, M.D.
Little Rock, Arkansas

Professor and Chairman, Department of Anesthesiology, University of Arkansas School of Medicine. Formerly Professor and Chairman, Department of Anesthesiology, Wayne State University College of Medicine, 1951-63. Diplomate, American Board of Anesthesiology. M.D., St. Louis University School of Medicine, 1944. Residencies at Metropolitan Hospital, New York, New York, and Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania.



HANS H. HECHT, M.D.
Chicago, Illinois

Chairman of the Department of Cardiology, and Professor of Medicine and Physiology, University of Chicago School of Medicine. Formerly Professor of Medicine, University of Utah School of Medicine, 1958-65. Fellow, American College of Physicians. Diplomate, American Board of Internal Medicine. M.D., University of Berlin, 1936. Editorial Board, Circulation. Editorial Board, Diseases of the Chest. Fellow, American College of Chest Physicians.



ALLEN R. HENNES, M.D.
Detroit, Michigan

Professor of Medicine, and Chief of the Section on Endocrinology, Wayne State University School of Medicine. Formerly member of the faculty of the University of Michigan School of Medicine and the University of Oklahoma School of Medicine. Diplomate, American Board of Internal Medicine. M.D., University of Michigan School of Medicine, 1949. Fellow, American College of Physicians.



ROGER S. MITCHELL, M.D.
Denver, Colorado

Associate Professor of Medicine, University of Colorado School of Medicine. Director, Webb-Waring Institute for Medical Research. M.D., Harvard University Medical School, 1934. Diplomate, American Board of Internal Medicine. Fellow, American College of Physicians. Fellow, American College of Chest Physicians. Formerly Associate Director, Trudeau Sanitarium of New York.



PAUL B. McCLEAVE, B.D.
Chicago, Illinois

Director of the Department of Medicine and Religion, American Medical Association. B.D., Presbyterian Theological Seminary, Omaha, Nebraska. Postgraduate Training at the University of Geneva, Geneva, Switzerland. Presbyterian minister at various locations in Kansas and Montana. Chaplain, United States Navy, 1942-45. Formerly President, College of Emporia, Emporia, Kansas, 1948-52. Honorary Doctor of Laws, University of Tulsa.



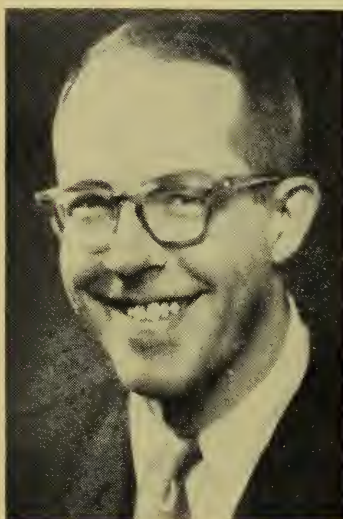
LAURENCE L. ROBBINS, M.D.
Boston, Massachusetts

Clinical Professor of Radiology, Harvard Medical School. Radiologist-In-Chief, Massachusetts General Hospital, Boston. President, American Board of Radiology, 1960-63. President, Radiological Society of North America, 1959. Editor, "Diagnostic Radiology," 1959. Associate Editor, "Radiology." M.D., University of Vermont School of Medicine, 1937. Fellow, American College of Radiology. Formerly Chairman, Section on Radiology, American Medical Association.



JOHN S. STEHLIN, JR., M.D.
Houston, Texas

Associate Surgeon, University of Texas M.D. Anderson Hospital and Tumor Institute. Associate Professor of Surgery, University of Texas Postgraduate School of Medicine. M.D., Marquette University School of Medicine, 1944. Diplomate, American Board of Surgery. Fellow, American College of Surgeons. Member, American Association for Cancer Research. Fellow, Southwestern Surgical Congress.



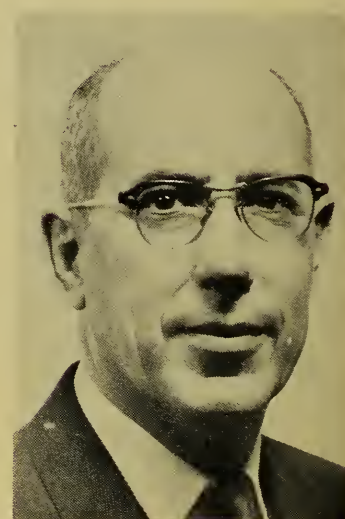
ELTON WATKINS, JR., M.D.
Boston, Massachusetts

Surgeon, and Director of Surgical Research, Lahey Clinic. Formerly Assistant Clinical Professor of Surgery, Harvard Medical School. M.D., University of Oregon School of Medicine, 1944. Diplomate, American Board of Surgery. Diplomate, American Board of Thoracic Surgery. Fellow, American College of Surgeons. Consultant to the Office of Naval Research. Senior Surgeon, New England Deaconess Hospital.



ALEXANDER H. WOODS, M.D.
Tucson, Arizona

Professor of Immunology, University of Arizona School of Medicine. Director, Southwestern Clinic and Research Institute. Formerly member of the faculty of University of Oklahoma School of Medicine. M.D., Johns Hopkins University School of Medicine, 1952. Residency training in Medicine and Biochemistry, Duke University Hospital. Associate Chief of Staff, U. S. Veterans Administration Hospital of Tucson.



CHARLES F. KEMP, D.D., Ph.D.
Fort Worth, Texas

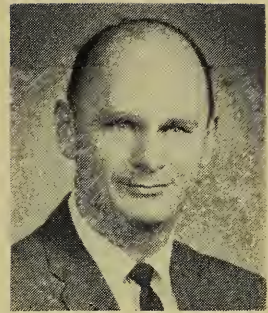
Distinguished Professor of Pastoral Care and Pastoral Psychology, Brite Divinity School, Texas Christian University. Author of eight books in the field of pastoral preaching, pastoral counseling, preparation for the ministry, and pastoral psychology. D.D. (Honorary), Drake University. Ph.D., University of Nebraska. Fellow, American Psychological Association.

PROGRAM PARTICIPANTS*

Sidney Traub, M.D.
Oklahoma City

Albert L. Shirkey, M.D.
Tulsa

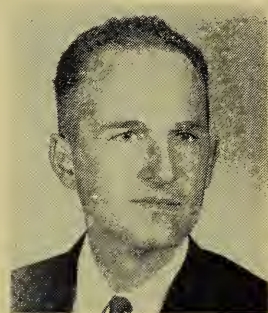
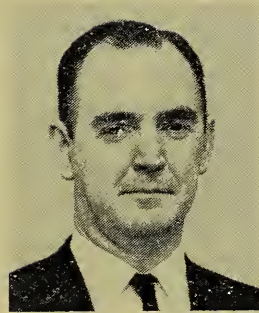
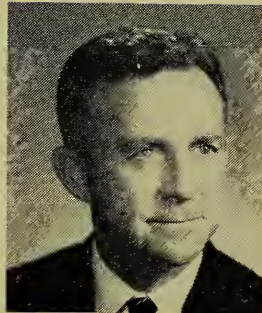
Donald L. Brawner, M.D.
Tulsa



Walter E. Brown, M.D.
Tulsa

H. N. Kirkman, M.D.
Oklahoma City

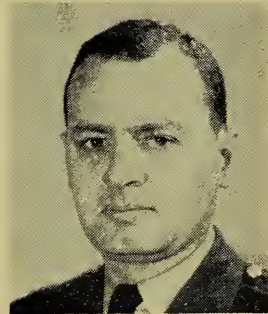
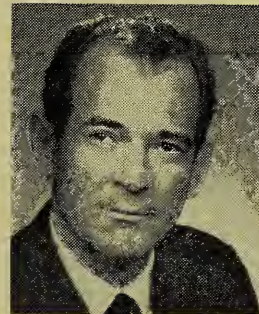
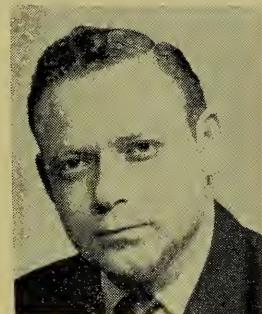
Howard A. Bennett, M.D.
Tulsa



Dave B. Lhevine, M.D.
Tulsa

E. Lee Grigg, LL.B.
Tulsa

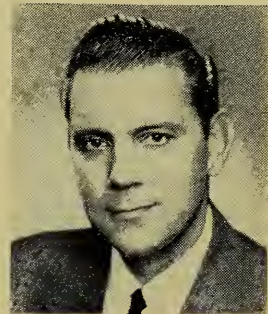
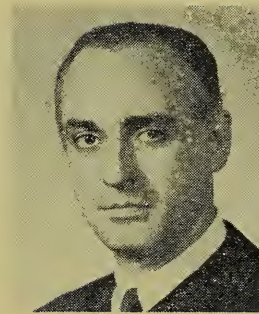
Warren L. Felton, M.D.
Oklahoma City



Lucien M. Pascucci, M.D.
Tulsa

Judge Fred Daugherty
Oklahoma City

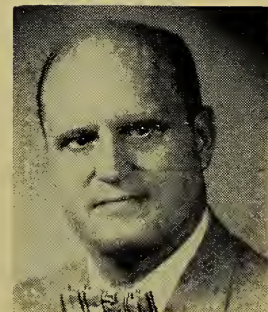
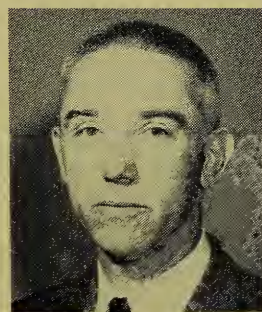
C. S. Lewis, Jr., M.D.
Tulsa



Paul T. Condit, M.D.
Oklahoma City

Duane E. Brothers, M.D.
Tulsa

Ernest S. Kerekes, M.D.
Tulsa



*Pictured, left to right. Not pictured, Allen E. Greer, M.D., Oklahoma City; Judge Robert D. Simms. Tulsa.

Friday Morning, May 14, 1965

ROOM 1—THIRD FLOOR—TULSA ASSEMBLY CENTER

SEMINAR: WHAT'S NEW IN RADIOLOGY

Walter E. Brown, M.D., Tulsa, Presiding

- 9:30 a.m. MAMMOGRAPHY
Ernest S. Kerekes, M.D., Tulsa, and Walter E. Brown, M.D., Tulsa
This paper will describe the technical aspects of demonstrating breast tumors by radiography.
- 9:50 a.m. RADIOLOGIC AID IN THE DIAGNOSIS OF ANEURYSMS
Albert L. Shirkey, M.D., Tulsa
Illustrated with unusual slides showing both the radiographic characteristics and the actual operative procedures in the repair of arterial aneurysms.
- 10:10 a.m. EVALUATION OF VASCULAR MARKINGS IN ROUTINE SKULL FILMS
Sidney Traub, M.D., Oklahoma City
A valuable examination of the troublesome vascular markings seen in skull films.
- 10:35 a.m. LIVE DEMONSTRATION OF FLUOROSCOPIC EXAMINATION USING AN IMAGE INTENSIFIER
Telecast from the X-Ray Department of St. John's Hospital of Tulsa. The fascinating possibilities of remote image visualization of fluoroscopic procedures will be demonstrated through the courtesy of the General Electric X-Ray Corporation. An upper G.I. series will be carried out at the hospital and viewed simultaneously at the Assembly Center through closed circuit television.
- 11:05 a.m. RADIOLOGY AT THE CROSSROADS
Laurence L. Robbins, M.D., Boston, Massachusetts
The place of radiology in American Medicine is explored by this distinguished radiologist, with references to technical advances of promise in the field. Comment on the increasing complexities of radiologic practice.
- 11:25 a.m. USE OF RADIOACTIVE ISOTOPES IN DIAGNOSIS, WITH PARTICULAR EMPHASIS ON SCANNING PROCEDURES
Lucien M. Pascucci, M.D., Tulsa
A review of techniques for brain scans, with clinical information on thyroid scans, liver scans and other procedures.

ENTERTAINMENT LUNCHEON "Prescription For A Happy Life"

12:30 p.m.—Pompeian Court, The Mayo

Charles W. Jarvis, D.D.S., San Marcos, Texas

Friday Afternoon, May 14, 1965

ROOM 1—THIRD FLOOR—TULSA ASSEMBLY CENTER

SEMINAR: WHAT'S NEW IN CLINICAL MEDICINE

Alexander H. Woods, M.D., Tucson, Arizona, Presiding

- 2:00 p.m. KARYOTYPES AND SEX CHROMATIN IN CLINICAL MEDICINE
David H. Carr, M.D., London, Ontario
A study of sex chromatin patterns, with references to aberrations of autosomal chromatin as exemplified by the Philadelphia chromosome in chronic myelogenous leukemia.
- 2:30 p.m. DO VIRUSES CAUSE CANCER?
Paul H. Black, M.D., Bethesda, Maryland
Current epidemiological and experimental evidence on this concept are reviewed.
- 3:00 p.m. Intermission—VISIT EXHIBITS

- 3:10 p.m. **STRUCTURE OF DNA; PROTECTION AGAINST DNA MODIFICATION**
H. N. Kirkman, M.D., *Oklahoma City*
A review of the structure of DNA and models of its modification by bacterial viruses (lysogeny), as well as many other oncolytic agents (radiation, for example), and speculations concerning chemical protection against DNA modifications.
- 3:40 p.m. **NEW CONCEPTS IN DIABETES AND ATHEROSCLEROSIS**
Allen R. Hennes, M.D., *Detroit, Michigan*
An exploration based upon observed pathways in intermediary metabolism in disease states, linked with clinical manifestations, prophylaxis and therapy.
- 4:10 p.m. **PANEL DISCUSSION.** Moderated by Doctor Woods. Questions and answers with all afternoon guest speakers participating.

Saturday Morning, May 15, 1965

ROOM 1—THIRD FLOOR—TULSA ASSEMBLY CENTER

8:30 a.m. **MEDICAL AND SURGICAL MOTION PICTURES**

SEMINAR: TREATMENT OF CARDIAC ARYTHMIAS **C. S. Lewis, Jr., M.D., Tulsa, Presiding**

Participants:

- 9:00 a.m. Hans H. Hecht, M.D., *Chicago, Illinois*
to Allen E. Greer, M.D., *Oklahoma City*
- 10:20 a.m. C. S. Lewis, Jr., M.D., *Tulsa*
A detailed review of modern methods of treatment of cardiac arrhythmias, with reference to intensive care, monitoring, conversion, auricular fibrillation, and the use of cardiac pacemakers.
Questions and Answers.

10:20 a.m. **Intermission—VISIT EXHIBITS**

SEMINAR: WHAT'S NEW IN CANCER CHEMOTHERAPY **Donald L. Brawner, M.D., Tulsa, Presiding**

- 10:30 a.m. **REGIONAL CHEMOTHERAPY FOR CANCER—PERFUSION AND INFUSION**
John S. Stehlin, Jr., M.D., *Houston, Texas*
- 11:00 a.m. **SYSTEMIC ADMINISTRATION OF CHEMOTHERAPY FOR CANCER**
Paul B. Condit, M.D., *Oklahoma City*
- 11:20 a.m. **CANCER CHEMOTHERAPY BY PROTRACTED AMBULATORY INFUSION**
Elton Watkins, Jr., M.D., *Boston, Massachusetts*

LUNCHEON: ROUNDTABLE CONFERENCES WITH GUEST SPEAKERS

12:15 p.m., Pompeian Court, The Mayo

Each visiting guest speaker will be at a large table presided over by a moderator. Physicians may discuss with the guest speaker, and among themselves, any pertinent topics of medicine and surgery.
Questions and Answers.

Saturday Afternoon, May 15, 1965

ROOM 1—THIRD FLOOR—TULSA ASSEMBLY CENTER

SECOND ANNUAL PETER E. RUSSO MEMORIAL CONFERENCE ON MEDICINE AND RELIGION

Duane E. Brothers, M.D., Tulsa, Presiding

- 1:45 p.m. **INVOCATION**
Rabbi Norbert I. Rosenthal, *Tulsa*
- 1:50 p.m. **INTRODUCTORY REMARKS**
Doctor Brothers, Conference Coordinator

- 1:55 p.m. **THE AMA'S MEDICINE AND RELIGION PROGRAM**
Reverend Doctor Paul B. McCleave, Director, Department of Medicine and Religion, American Medical Association, *Chicago, Illinois*
- 2:05 p.m. **THE RELATIONSHIP BETWEEN RELIGION AND MEDICAL PRACTICE**
Donovan F. Ward, M.D., President, American Medical Association, *Dubuque, Iowa*
- 2:30 p.m. **PASTORAL CARE IN THE SICK ROOM**
Reverend Doctor Charles F. Kemp, Professor of Pastoral Care and Pastoral Psychology, Brite Divinity School, Texas Christian University, *Fort Worth, Texas*
- 2:55 p.m. **DIALOGUE**
Doctor McCleave presiding, with participation by guest speakers and the audience.
- 3:20 p.m. Intermission
- SEMINAR: RECENT PROGRESS IN THE TREATMENT OF PULMONARY DISEASES**
Howard A. Bennett, M.D., Tulsa, Presiding
- 3:30 p.m. **MEDICAL ASPECTS OF PULMONARY DISEASES**
Roger S. Mitchell, M.D., *Denver, Colorado*
- 4:00 p.m. **THE USE OF NEW MECHANICAL APPARATUS IN THE TREATMENT OF PULMONARY DISEASES**
Ferdinand E. Greifenstein, M.D., *Little Rock, Arkansas*
- 4:30 p.m. **SURGICAL CONSIDERATIONS IN THE TREATMENT OF PULMONARY DISEASES**
Warren L. Felton, M.D., *Oklahoma City*

Saturday Evening, May 15, 1965

PRESIDENT'S INAUGURAL DINNER-DANCE—CRYSTAL BALLROOM, THE MAYO

6:30 p.m. to 1:00 a.m.

Social hour and buffet dinner, inaugural ceremonies and entertainment by the Bison Glee Club, Oklahoma Baptist University, Shawnee, Oklahoma—featuring Ted Harris and Nancy Montgomery, soloists. Dancing to the music of Marjean Fox and her orchestra.

Sunday Morning, May 16, 1965

ROOM 1—THIRD FLOOR—TULSA ASSEMBLY CENTER

MEDICAL-LEGAL CONFERENCE

Dave B. Lhevine, M.D., Tulsa, Presiding

10:00 a.m. to Noon

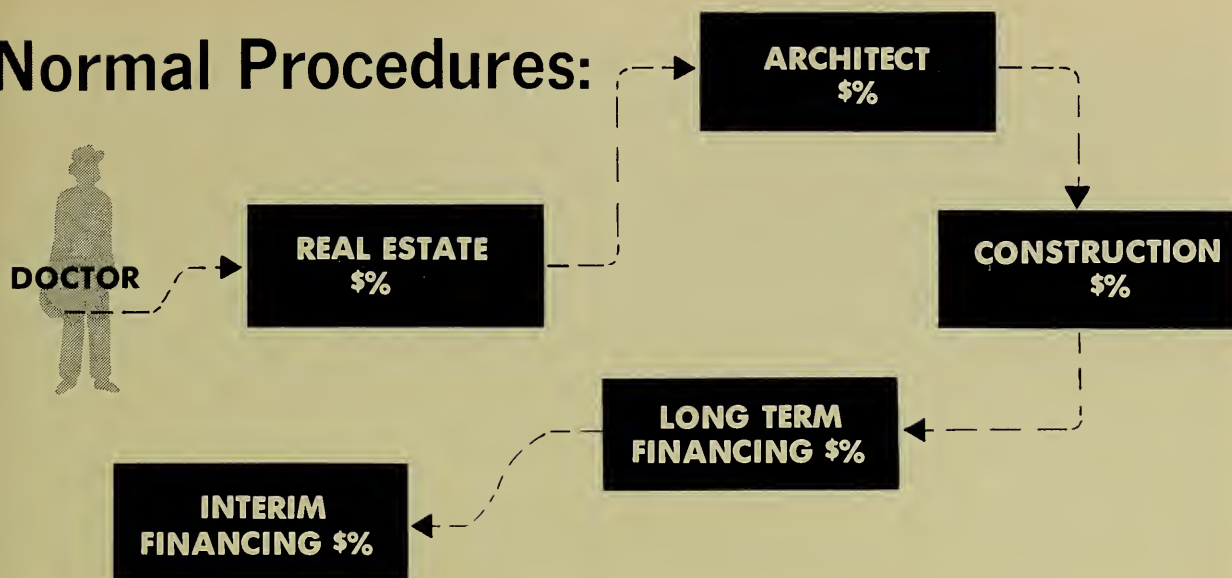
Guest Panelists:

Honorable Robert D. Simms,, Judge, District Court, 3rd Division, *Tulsa*
Mr. E. Lee Grigg, Attorney-at-Law, Houston, Klein & Davidson, *Tulsa*
Honorable Fred Daugherty, Judge, United States District Court, Western District of Oklahoma, *Oklahoma City*

A significant discussion of the legal responsibilities of the physician, attorney and physician relationships, the conduct of the doctor in court, and malpractice prevention and defense. Informed discussions of these topics will be followed by a question and answer period.

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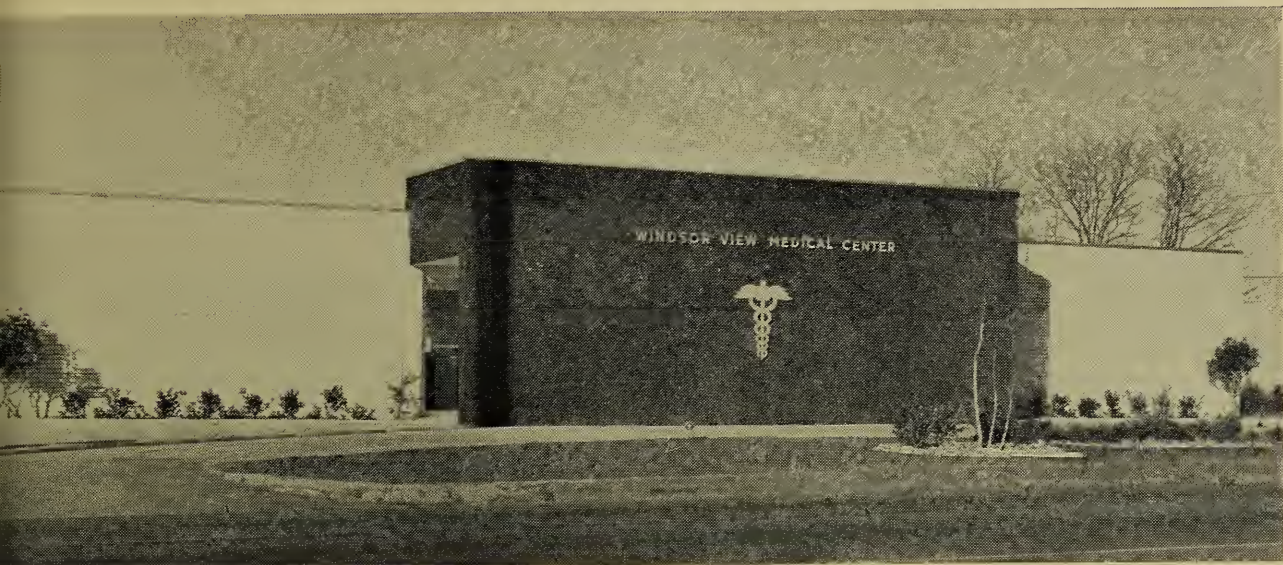
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Technical Exhibitors

The Technical Exhibit of the 59th Annual Meeting of the Oklahoma State Medical Association will be in the beautiful third floor Assembly Hall of the Tulsa Assembly Center, immediately adjacent to the meeting room for the scientific sessions.

Displays will be featured by the following firms:

Abbott Laboratories	Mid-Continent Surgical Supply Company
Beverly Hills Hospital	Murray Myers Company, Inc.
Blue Cross-Blue Shield Plans of Oklahoma	National Drug Company
Broilitizer Sales	Ortho Pharmaceutical Corporation
Ciba Pharmaceutical Company	Pfizer Laboratories
Clinical Development Corporation	R. J. Reynolds Tobacco Company
Coca-Cola Bottling Company	A. H. Robins Company
Coreco Research Corporation	St. Paul Insurance Companies
Encyclopaedia Britannica	Sandoz Pharmaceuticals
Fitzgerald, Cowen & Company	Sealy Southwest
C. L. Frates & Company	G. D. Searle & Company
Geigy Pharmaceuticals	Sherman Laboratories
Hewlett-Packard Company	Smith Kline & French Laboratories
Eli Lilly & Company	E. R. Squibb & Sons
Massachusetts Mutual Life Insurance Co.	The Uniform Shop
McNeil Laboratories	Upjohn Company
Mead Johnson Laboratories	Wallace Laboratories
Medco Products Company, Inc.	Warner-Chilcott Laboratories
Merck Sharp & Dohme	Barney Welch & Associates
Merkel X-Ray Company	Westwood Pharmaceuticals
Merrill Lynch, Pierce, Fenner & Smith, Inc.	Zimmer Company
Metro Med, Incorporated	

Scientific Exhibits

Assembly Hall — 3rd Floor — Tulsa Assembly Center

RADIOGRAPHY IN DIFFERENTIAL DIAGNOSIS OF HEART DISEASE. *Oklahoma Heart Association*

Physicians test their diagnostic ability in this unusual exhibit produced by the American Heart Association. After reading four case histories and studying the pertinent laboratory data illustrated in the panels, the physician answers multiple choice questions about each case and checks his answers.

ECHOENCEPHALOGRAPHY. *St. Francis Hospital of Tulsa, John E. Kauth, M.D., Reed T. Gillian, R.T., Tulsa.*

Demonstrating the use of ultrasound in the diagnosis of space occupying massing in the head.

CHEMOSURGERY. *William R. R. Loney II, M.D., Bartlesville.*

Unusual photographs are used to show the chemosurgical technic of treating skin cancers.

CONTRACEPTION IN THE MID-20TH CENTURY. *Planned Parenthood Association of Tulsa, Inc., Houston F. Mount, M.D., Paul A. Bischoff, M.D., Tulsa.*

A demonstration of some of the newer methods of contraception available today.

RADIOISOTOPE SCANNING. *St. John's Hospital of Tulsa, Lucien M. Pascucci, M.D., Tulsa.*

Photographs and x-rays will be displayed, showing normal and abnormal organs with brief case histories.

PHYSIOLOGICAL MECHANISMS AND TREATMENT OF HEADACHE AND FACE PAIN. *Research Foundation of Tulsa, Averill Stowell, M.D., Tulsa.*

This exciting exhibit consists of animated lucite brain and sound track, describing the

various physiological mechanisms in various types of vascular headache, the use of Sansert and other medications in the treatment of headache, as well as Sansert in the treatment of trigeminal neuralgia.

CHILD CARE FACILITIES, PRESENT AND FUTURE, IN THE STATE OF OKLAHOMA. *Committee on Psychiatry of Childhood and Adolescence, Oklahoma District Branch of the American Psychiatric Association; Marshall D. Schechter, M.D., Harold Binder, M.D., Oklahoma City; W. R. Coutant, M.D., Bartlesville; Paul C. Benton, M.D., Duncan MacMaster, M.D., and James T. Proctor, M.D., Tulsa; and Lorraine Schmidt, M.D., Norman.*

The present needs for facilities and services for the care of children in Oklahoma are seen in this unusual exhibit. The projected needs for the future are also reviewed.

MAMMOGRAPHY. *Walter E. Brown, M.D., Ernest S. Kerekes, M.D., St. John's Hospital, Tulsa.*

A study of the x-ray diagnosis of breast lesions.

EVALUATION OF VASCULAR MARKINGS IN ROUTINE SKULL FILMS. *Sidney Traub, M.D., Oklahoma City.*

X-rays and photographs are used in this study of the troublesome vascular markings seen by all physicians in skull films.

MODERN PSYCHIATRY AND MENTAL HEALTH. *Tulsa Psychiatric Foundation, Tulsa.*

A review of certain aspects of comprehensive psychiatric programs in producing good mental health.

Exhibits Received After March 15th Not Programed

President's Inaugural Dinner-Dance



MARJEAN FOX

SATURDAY, MAY 15th, 1965

- 6:30 p.m. Social Hour and Reception, 16th Floor Lounge Rooms, The Mayo
- 7:15 p.m. Buffet Dinner and Inaugural Ceremonies, Crystal Ballroom, The Mayo. Special musical entertainment by the Bison Glee Club, Oklahoma Baptist University, Shawnee
- 9:00 p.m. OSMA Annual Dance, featuring the exciting music of beautiful Marjean Fox and her Orchestra. Crystal Ballroom, The Mayo, until 1:00 a.m.

The social highlight of the 1965 Annual Meeting of the Oklahoma State Medical Association will be the President's Inaugural Dinner-Dance, an event of Saturday, May 15th, at The Mayo. You and your wife can be assured of a delightful evening of fun, entertainment, good food and fellowship with your professional colleagues.

Following the social hour, with its selection of highballs and mixed drinks, a delicious buffet dinner will be served. Your choice of many kinds of delicious meats, vegetables, salads and desserts.

Doctor Rex E. Kenyon of Oklahoma City will assume the leadership of the OSMA in brief inaugural ceremonies. The after-dinner program will feature one of America's best known college musical groups, the Bison Glee

Club of Oklahoma Baptist University. This talented aggregation of musicians and singers has won national awards with its gay arrangements, and more recently has been on tour in Europe, where it has been a resounding success. While the Glee Club takes a breather, Nancy Montgomery and Ted Harris, popular personalities of summer theaters across the nation, will delight you with hit songs from top Broadway shows.

To end the evening there are four hours of dancing to the modern rhythms of Marjean Fox and Her Orchestra. Raven-haired Marjean and her talented musicians run the gamut of popular dance music, fast and slow, sweet and hot, answering your requests. Set-ups will be free at a help-yourself bar, but bring your own liquor.

TICKETS

The social hour, buffet dinner, inaugural ceremonies, after-dinner entertainment, and the Marjean Fox dance—all yours for only \$7.50 per person. Attendance will be limited to the capacity of the Crystal Ballroom, so order your tickets in advance. Just send a check, payable to Oklahoma State Medical Association, to OSMA Convention Headquarters, 104 Utica Square Medical Center, Tulsa, Oklahoma. Tickets will be sent by return mail.

A G E N D A *

House of Delegates Meetings

OPENING SESSION

9:00 a.m., May 14th, Room 2, Tulsa Assembly Center

- | | |
|-------------------------------------|--|
| I. Call to Order | VI. Report of President |
| II. Report of Credentials Committee | VII. Board of Trustees Report |
| III. Introduction of Guests | VIII. Council, Committee Reports |
| IV. Remarks of Speaker | IX. Introduction of Resolutions, Amendments to the Constitution and Bylaws |
| V. Nomination of Officers | X. Necrology Report |

(Reference Committees will meet at 4:00 p.m., May 14th, in the Mayo Hotel)

CLOSING SESSION

9:00 a.m., May 15th, Room 2, Tulsa Assembly Center

- I. Call to Order
- II. Reference Committee Reports
- III. Election of Officers
- IV. Adjournment

*Condensed Version, Subject to Modification

OFFICERS TO BE ELECTED

President (One Year Term)
Vice-President (One Year Term)
Delegate to the AMA (Two Year Term)
Alternate Delegate to the AMA (Two Year Term)
Trustees From Districts 1, 4, 7, 10, 11 and 13

Oklahoma State Medical Association

1965 DELEGATES AND ALTERNATES

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CLEVELAND
McCLAIN

COMANCHE
COTTON
COOKSON HILLS
 (Cherokee, Adair
 and Sequoyah)
CRAIG
DELAWARE
OTTAWA
CREEK
CUSTER
EAST CENTRAL
 (Muskogee,
 Wagoner and
 McIntosh)
GARFIELD
KINGFISHER
 (Major)
GARVIN
GRADY
GREER
HUGHES
SEMINOLE
JACKSON
 (Harmon)
JEFFERSON
KAY
NOBLE

KIOWA
WASHITA
LeFLORE
HASKELL
LINCOLN
LOGAN
McCURTAIN
MURRAY
NORTHWESTERN
 (Beaver, Dewey,
 Ellis, Harper
 and Woodward)
OKFUSKEE

DELEGATES

J. F. Simon, M.D., Alva

 Leroy L. Engles, M.D., Durant

 H. K. Speed, M.D., Sayre

 (Not Reported)
 J. B. Miles, M.D., Anadarko
 F. W. Hollingsworth, M.D., El Reno
 Roger Reid, M.D., Ardmore
 Frank Clark, M.D., Ardmore

 Bill E. Woodruff, M.D., Hugo

 Hayden H. Donahue, M.D., Norman
 T. A. Ragan, M.D., Norman
 Y. E. Parkhurst, M.D., Oklahoma City
 W. A. Matthey, M.D., Lawton
 R. P. Dennis, M.D., Lawton
 William T. Morris, M.D., Tahlequah

 Donald Olson, M.D., Vinita

 Robert White, M.D., Sapulpa
 Ross Deputy, M.D., Clinton
 Glen Berkenbile, M.D., Muskogee
 E. L. Leonard, M.D., Wagoner
 Emil Stratton, M.D., Muskogee

 Mark D. Holcomb, M.D., Enid
 D. Eugene Johnson, M.D., Enid
 Jack Shirley, M.D., Okarche
 John M. Moore, M.D., Pauls Valley
 B. C. Chatham, M.D., Chickasha
 H. H. Lenaburg, M.D., Mangum
 Claude B. Knight, M.D., Wewoka

 Wayne A. Starkey, M.D., Altus

 Harold Stout, M.D., Waurika
 Robert F. Morgan, M.D., Blackwell
 Jack O. Alexander, M.D., Ponca City
 A. M. Evans, M.D., Perry
 Roy W. Anderson, M.D., Cordell

 C. S. Cunningham, M.D., Poteau

 William I. Jones, M.D., Stroud
 James S. Petty, M.D., Guthrie
 (Not Reported)
 R. W. Morton, M.D., Sulphur
 M. K. Braly, M.D., Woodward
 R. H. Burgtorf, M.D., Shattuck

 Noel E. Miller, M.D., Okemah

ALTERNATES

Douglas Leatherman, M.D., Wynoka

 Alfred T. Baker, M.D., Durant

 William Leebron, M.D., Elk City

 James A. Hill, M.D., Carnegie
 E. W. Young, M.D., El Reno
 Don Mannerberg, M.D., Ardmore
 J. F. York, M.D., Madill

 Henry D. Wolfe, M.D., Hugo

 Donald Dycus, M.D., Norman
 Gerald McCullough, M.D., Norman
 William Crittendon, M.D., Norman
 Donald Wicker, M.D., Lawton
 Paul Vann, M.D., Lawton
 Edgar A. Gedosh, M.D., Sallisaw

 David Carson, M.D., Miami

 Merrill Bartlett, M.D., Sapulpa
 Harold Tisdal, M.D., Clinton
 Ben H. Gaston, M.D., Muskogee
 H. D. Tuttle, M.D., Wagoner
 David Watson, M.D., Muskogee

 H. L. Steffen, M.D., Enid
 A. M. Shideler, M.D., Enid
 J. R. Taylor, M.D., Kingfisher
 Edward T. Shirley, M.D., Wynnewood
 Rossler Henton, M.D., Rush Springs
 Fred W. Sellers, M.D., Mangum
 L. A. S. Johnston, M.D., Holdenville

 R. S. Srigley, M.D., Altus

 W. A. Heflin, M.D., Ryan
 Donald Becker, M.D., Blackwell
 Edwin Fair, M.D., Ponca City
 A. M. Brown, Jr., M.D., Perry
 L. G. Livingston, M.D., Cordell

 R. W. Lowrey, M.D., Poteau

 Michael N. Burleson, M.D., Prague
 J. R. Ringrose, M.D., Guthrie

 (Not Reported)
 J. A. Hanna, M.D., Mooreland
 H. B. Witten, M.D., Ft. Supply

 Charles A. Cashman, M.D., Okemah

OKLAHOMA

*David R. Brown, M.D.
Arthur F. Elliott, M.D.
Cecil Stansberry, M.D.
Elwood Herndon, M.D.
Lloyd Owens, M.D.
John A. Blaschke, M.D.
Nolen L. Armstrong, M.D.
William Cleaver, M.D.
John W. DeVore, M.D.
Robert S. Ellis, M.D.
G. Rainey Williams, M.D.
Galen P. Robbins, M.D.
M. Joe Crosthwait, M.D.
Richard Stansberry, M.D.
George H. Garrison, M.D.
James S. Boyle, M.D.
Marvin B. Glismann, M.D.
Mark R. Johnson, M.D.
Robert T. Sturm, M.D.
William L. Parry, M.D.
Haven Mankin, M.D.
Paul D. Erwin, M.D.
Dick H. Huff, M.D.
Scott Hendren, M.D.
Irwin H. Brown, M.D.

Edward Munnell, M.D.
Vance Bradford, M.D.
Ted Clemens, Jr., M.D.
John Carey, M.D.
Samuel T. Moore, M.D.
J. R. Stacy, M.D.
Marvin Margo, M.D.
William Best Thompson, M.D.
Bertha M. Levy, M.D.
James A. Cutter, M.D.
R. Gibson Parrish, M.D.
Robert Sukman, M.D.
Ralph A. Smith, M.D.
John R. Danstrom, M.D.
S. R. McCampbell, M.D.
Charles E. Delhotal, M.D.
Louis E. Speed, M.D.
M. T. Buxton, M.D.
Kelly M. West, M.D.
D. D. Albers, M.D.
Charles A. Tollett, M.D.
W. L. Waldrop, M.D.
Howard Shorbe, M.D.
F. Redding Hood, M.D.
Kirk T. Mosley, M.D.

OKMULGEE**OSAGE****PAYNE****PAWNEE****PITTSBURG**

(Latimer)

PONTOTOC

(Johnston)

POTTAWATOMIE**ROGERS****MAYES****STEPHENS****TEXAS****CIMARRON****TILLMAN****TULSA**

*All Residents of Oklahoma City
C. E. Smith, M.D., Henryetta
Richard Loy, M.D., Pawhuska
(Not Reported)

E. H. Shuller, M.D., McAlester
Joe W. McCauley, M.D., McAlester
Ollie McBride, M.D., Ada
David C. Ramsay, M.D., Ada
Leon Combs, M.D., Shawnee
Minor Gordon, M.D., Claremore

Casper H. Smith, M.D., Duncan
E. L. Buford, M.D., Guymon

Jack Honaker, M.D., Frederick

*James W. Kelley, M.D.
L. A. Munding, M.D.
Craig S. Jones, M.D.
Homer D. Hardy, Jr., M.D.
Joe E. Tyler, M.D.
Howard A. Bennett, M.D.
Myra A. Peters, M.D.
Thomas W. Taylor, M.D.
Maxwell A. Johnson, M.D.
Wm. M. Benzing, Jr., M.D.
John W. Gaddis, M.D.
Paul A. Bischoff, M.D.
Herbert S. Orr, M.D.
C. S. Lewis, Jr., M.D.
Carl H. Guild, M.D.
Donald L. Brawner, M.D.

*All Residents of Tulsa
John R. Smithson, M.D., Dewey
H. E. Denyer, M.D., Bartlesville
O. L. Grigsby, M.D., Nowata

George Tracewell, M.D., Okmulgee
Richard F. Harper, M.D., Pawhuska

W. Riley Murphy, Jr., M.D., McAlester
Hartzell Schaff, M.D., McAlester
Clarence P. Taylor, M.D., Ada
E. D. Padberg, M.D., Ada
Frances Newlin, M.D., Shawnee
Jerry Puls, M.D., Pryor

J. P. Keller, M.D., Duncan
(Not Reported)

R. G. Johnson, M.D., Frederick
William F. Ewing, Jr., M.D.
Bernard E. Guenther, M.D.
Dixon N. Burns, M.D.
Robert L. Anderson, M.D.
William T. Holland, M.D.
John E. Kauth, M.D.
Francis W. Pruitt, M.D.
Harold A. Vinson, M.D.
William B. Scimeca, M.D.
Joe L. Spann, M.D.
Robert A. Northrup, M.D.
Leon Horowitz, M.D.
Robert G. Perryman, M.D.
Robert D. Grubb, M.D.
Byron L. Bailey, M.D.
Byron W. Steele, Jr., M.D.

William M. Aldredge, M.D., Bartlesville
Elvin M. Amen, M.D., Bartlesville
John Reid, Jr., M.D., Nowata

WASHINGTON**NOWATA**

HOUSE OF DELEGATES: BUSINESS AFFAIRS

The following reports are brought to the attention of county medical societies. The items reported here represent those received in time for publication in advance of the meeting. Reports and proposals received subsequently will be reproduced and inserted in the portfolios now being prepared for each county society delegate.

COUNCIL ON PROFESSIONAL EDUCATION Report to the House of Delegates

May 14, 1965

Council Members

S. N. Stone, Jr., M.D., Chairman	Oklahoma City
Howard A. Bennett, M.D.	Tulsa
E. E. Shircliff, M.D.	Oklahoma City
Roger Reid, M.D.	Ardmore
Donald L. Brawner, M.D.	Tulsa
Irwin H. Brown, M.D.	Oklahoma City
Orange M. Welborn, M.D.	Ada
Wendell L. Smith, M.D.	Tulsa
Cleve Beller, M.D.	Tulsa
B. C. Chatham, M.D.	Chickasha

Eight regional postgraduate courses were held throughout the state again this year. This was the fifth consecutive year for our sponsorship of the courses.

Hosting the courses were: Ada, Clinton-Sherman Air Force Base, Ponca City, Ardmore, Lawton, Woodward, Enid and Muskogee. Nearly 250 Oklahoma physicians attended the courses.

Nine Educational Television shows were sponsored. These programs were televised at the rate of one per week during the months of February and March. From all indications, they were well received by most physicians.

The Council intends to explore the possibility of broadening the scope of the regional courses and television series in an effort to offer even more postgraduate education to physicians across the state.

Without the cooperation given by Irwin H. Brown, M.D., and the Postgraduate Office of the University of Oklahoma School of Medicine, the success of the regional courses and the television programs would not have been possible. The staff of the OSMA is to be commended for promoting attendance and coordinating the courses.

Recommendations

1. That the regional postgraduate courses be continued and that the sum of \$1,200.00

be allotted for use as needed in this regard.

2. That the educational television courses be continued and that \$1,200.00 be allotted to defray these expenses.

FINANCIAL AID TO EDUCATION COMMITTEE Report to the House of Delegates

May 14, 1965

During the preceding year, the committee was comprised of:

Joe L. Duer, M.D., Chairman	Woodward
Clinton Gallaher, M.D.	Shawnee
Harlan Thomas, M.D.	Tulsa
J. Hoyle Carlock, M.D.	Ardmore
Rex E. Kenyon, M.D.	Oklahoma City

Scholarships

Deposits to Scholarship Fund \$7,500.00

Scholarships Awarded:

William H. Smith, II	\$500.00
John F. Schumacher	500.00
Muriel E. McGlanery	500.00
Edward Gwin, IV	500.00
John A. Junker	500.00
Johnny H. Jones	500.00
William W. Wallace	500.00
Robert B. Livingston	500.00
Don A. Wilson	500.00
Gene C. Cunningham	500.00
Alan B. Menefee	500.00
Gary M. Moore	500.00
Sidney R. Matthews	500.00
Sherman B. Lawton	500.00
Raymond L. Cornelison	500.00
Total	\$7,500.00

Balance

—0—

(The five scholarship winners for the 1965-66 academic year have been selected. They are: William J. Kruse, Oklahoma City; Michael J. Dwyer, Ponca City; Richard D. Green, Norman; Jerry Glen Gregory, Oklahoma City; and Jerry L. Myers, Oklahoma City. Checks for \$500.00 each will be presented to these students next September.)

Loans

Deposits to Loan Fund \$17,400.00

Loans Disbursed or Obligated to

44 Students, totalling 17,400.00

Balance —0—

Grants-In-Aid	
Deposits to Fund.....	955.12
Grants Awarded (none).....	—0—
	<hr/>
Balance.....	955.12

Foundation of Corporation

As directed by the House of Delegates in May, 1964, the committee has accomplished the purpose of converting the scholarship and loan activity to the status of a charitable, non-profit corporation.

On December 10th, 1964, the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated, was granted a certificate of incorporation by the Secretary of State. Articles of Incorporation are on file at the OSMA Executive Office. The bylaws for the new corporation are currently being prepared, according to the same rules and regulations previously governing your committee's activities.

Since it was necessary to name the directors of the newly-formed corporation in order to obtain a charter, your committee named its own membership for this purpose. Thus, the directors of the corporation will change each year according to the prior rules established for the composition of the committee, *i.e.* the president of the association, the president-elect, and the three immediate past-presidents.

A resolution was approved by the association's Board of Trustees on January 10th, 1965, transferring from the scholarship and loan fund to the new corporation all assets including cash, accounts receivable, and notes. Pursuant to the House of Delegates' directive last year, the legal counsel for the association has made application for a tax-exemption certificate for the non-profit corporation, and the receipt of such certificate is anticipated in the near future.

In order to produce investment income from any uncommitted funds on deposit with the Business Administrator, University of Oklahoma Medical Center, your committee has authorized the purchase of certificates of deposit in appropriate amounts from national banks. As membership dues are received after January 1st of each year, the scholarship and loan allocation (\$5.00 per member per year) is transferred to the Medical Center depository account. Since these funds are not normally used for loans or

scholarships until the Fall, an opportunity exists for investment income during the intervening months.

Recommendations

1. It is recommended that the OSMA Financial Aid to Education Committee be established in the bylaws as a Standing Committee, its membership to be comprised of the association's president, president-elect, and the three immediate past-presidents residing in the state of Oklahoma. Further, this section of the bylaws should provide that the committee members shall also serve as the full board of directors of the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated.

2. It is recommended that all members of the Oklahoma State Medical Association be advised by mail regarding the tax-exempt status of the corporation, immediately upon receipt of a federal tax-exemption certificate.

COUNCIL ON INSURANCE

Report to the House of Delegates

May 14, 1965

Council Members

Dave B. Lhevine, M.D., Chairman.....	Tulsa
Nolen L. Armstrong, M.D.....	Oklahoma City
Jack D. Fetzer, M.D.....	Woodward
Douglas E. Wilson, M.D.....	Lawton
Donald L. Brawner, M.D.....	Tulsa
C. Alton Brown, M.D.....	Oklahoma City
E. C. Mohler, M.D.....	Ponca City
C. E. Woodard, M.D.....	Drumright

The Council represents the association in relation to the OSMA Disability Income Program, the OSMA Overhead Expense Program, the OSMA Group Term Life Program, and the OSMA-approved Professional Liability Program.

SECTION I DISABILITY INCOME PROGRAM

The disability income insurance program is underwritten by the Insurance Company of North America and it is administered by C. L. Frates and Company, an Oklahoma City insurance agency.

As of March 1, 1965, there were 794 members of the Oklahoma State Medical Association protected by the program.

Total premiums collected by INA since taking over the program in 1961 amount to \$524,676.40, and claims (including reserves for losses) have totaled \$318,409.46. Thus, the loss ratio since 1961 is 60.7 per cent.

At the time the association's program was changed to the Insurance Company of North America, physicians could select from \$200 to \$600 monthly indemnity, payable for life-time on accidental disability, and for three years on sickness. INA immediately offered an option of either three or five years for sickness protection, effected other liberalizing amendments to the benefits, and reduced the premium by 12 per cent.

The stability of the program resulted in a most favorable loss ratio during the ensuing period, and at last year's annual meeting, your Council was pleased to announce another extension of benefits. The maximum monthly indemnity figure was increased to \$800, and disability protection for sickness was extended to age 65.

About five months ago, the Frates agency persuaded INA to furnish private aircraft coverage in connection with the OSMA program. However, disability claims filed in this connection will not be charged against the experience of the basic program.

At the time of this report, losses are felt to be in appropriate balance with premium income, to the extent that a major liberalization or premium reduction is not considered advisable, but neither is the insurance company experiencing undue profits. The program is now operating at an optimum level of performance and will continue to do so if new OSMA members can be brought into the program on a regular basis.

To maintain the existing favorable trend in new enrollments, and perhaps to enhance it, the insurance company has recently agreed to furnish thirteen months' coverage at the regular annual premium rate, on an introductory basis, to all new members of the Oklahoma State Medical Association.

Based upon study and comparative analysis of other medical association disability income programs, the Council on Insurance is convinced that the OSMA program is the most competitive plan available in this area. It is the only state association program in the United States which offers both lifetime

accident benefits and sickness benefits to age 65, plus private flying coverage. Moreover, when total benefits are measured against premium cost, dollar-for-dollar, the OSMA program is superior to comparable national and regional medical association programs.

The Council is extremely indebted to Mr. Rodman Frates for his efficient administration of the disability income program, and is grateful for his expert counsel and dedicated effort in representing the association in its negotiations with the insurance company.

SECTION II

OVERHEAD EXPENSE PROGRAM

The overhead expense program is underwritten by the Continental Casualty Insurance Company, and is also administered by Rodman Frates for C. L. Frates and Company.

Your overhead expense program is designed to indemnify you against the cost of keeping your office open during periods of disability due to either accident or illness.

Up to \$1,000 a month in benefits may be purchased for your protection against necessary office expenses while you are disabled. Benefits are payable for 18 months, six months longer than most competitive plans. The waiting period for benefits to begin following disability is optional, either 15 or 30 days.

As of March 1, 1965, 168 physicians were taking advantage of this insurance program. Present premium rates are 12-14 per cent below competing national and regional programs available to Oklahoma physicians. However, due to the favorable loss picture of the Oklahoma plan, the insurance carrier is now considering a dividend or a further premium reduction.

SECTION III

GROUP TERM LIFE INSURANCE

The group term life insurance program is underwritten by the Massachusetts Mutual Life Insurance Company and administered by agent Walter C. Wilson, C.L.U., Oklahoma City. As of April 1, 1965, 363 OSMA members are insured.

For the past two years, excessive losses have jeopardized the stability of the pro-

gram, even though the total amount of benefits paid on behalf of OSMA members has more than proven the value of the insurance protection.

From 1956 through the year ending with the anniversary date on March 31, 1964, \$667,613 was paid out in claims, dividends to policyholders, administrative costs, taxes and commissions. During the same period, the premium income was \$592,961, resulting in an underwriting loss to the insurance company of \$74,652.

Because of the total loss picture, your Council on Insurance was faced with the problem last year of either effecting a considerable rate increase or re-designing the program on a more actuarially sound basis.

The former program offered a stable death benefit and a premium which increased as the insured grew older. The Council elected not to increase the premiums of the existing program, because it was felt that such action would result in cancellation by younger physicians and retention by older physicians, thus compounding the loss problem for the future.

Therefore, a revised plan was inaugurated on April 1, 1964, whereby the premium is constant through all age levels (\$125 per year) and the death benefit decreases with the age of the insured (ranging from \$33,125 at age 25 to \$2,250 at age 69).

The new plan actually reduced the cost per thousand dollars worth of death benefit. However, it was recognized by your Council that some older OSMA members would be more desirous of preserving their previous death benefit than in saving premium dollars, so they were afforded the option of continuing the former plan at a significant rate increase. Further, physicians converting to the new program at less death benefit than under the old plan were afforded the opportunity of taking out the balance in permanent life insurance without evidence of insurability.

Under the circumstances, your Council thought the most reasonable alternative was taken, and this action was supported by the Board of Trustees and the House of Delegates.

As of April 1, 1965, one year after inaugurating the re-designed program, the loss ex-

perience has markedly improved. However, with a premium income of \$46,198.54 and death claims of \$52,750, the program still incurred an underwriting loss of \$6,551.46.

The Massachusetts Mutual Life Insurance Company has agreed to continue the program throughout the period April 1, 1965 to March 31, 1966 without a premium increase, hoping that the underwriting basis of the new program will prove itself during the next year of operation.

Furthermore, the company has agreed to furnish an extra month's coverage to all new members of the Oklahoma State Medical Association to induce them to enroll in the program early, when the benefit per premium dollar is at its highest.

Like all group insurance programs, the long-range success of the group term life plan involves spreading the risk across the broadest possible base, which means that a constant enrollment of younger members is necessary year by year.

Every member of the Oklahoma State Medical Association should seriously consider participation in the excellent program offered by Massachusetts Mutual, and particular encouragement should be given to the younger members of our association. The plan can be as good as we will make it, and new enrollment is the key to our success. Greater enrollment would make the best group term life insurance program even better from both a benefit and cost basis. The present program offers members of the association the lowest cost, highest quality term life insurance protection available in the state from any source. In addition, the standard plan features double indemnity (triple indemnity in the event of death while on a common carrier), waiver of premium, private flying, and dismemberment and loss of sight coverage. Another distinguishing feature is that all settlement options available through the Massachusetts Mutual Life Insurance Company are offered through this unusual group plan.

Mr. Walter C. Wilson, administrator of the program, has been exceedingly helpful as an advisor to the Council. It is hoped that all members of the OSMA will consider themselves as agents of Mr. Wilson in his efforts to build enrollment in this outstanding program during the next year.

SECTION IV PROFESSIONAL LIABILITY INSURANCE

The association has approved the professional liability insurance program offered by the St. Paul Fire and Marine Insurance Company, and over 90 per cent of the active membership is so protected.

This program has been in operation since 1952 and has resulted in saving Oklahoma physicians about a half-million dollars in professional liability insurance premiums.

However, an unfavorable trend in losses, which began in 1959, reached catastrophic proportions in 1963 when the association plan experienced a 135 per cent loss ratio (premium income as compared to paid losses, loss reserves and expenses).

To compensate for these losses, it was necessary for the insurance company to raise premium rates by 20 per cent in 1963, and in 1964 the rates were adjusted upward once more to conform to the rates recommended by the National Bureau of Casualty Underwriters.

The major objective of the Council on Insurance in this field during the past year has been to reduce claims and losses, toward the ultimate goal of restoring the reduced-premium structure of the professional liability program. It is the considered judgment of your Council that many claims are not only factually unwarranted but also arise unnecessarily due to lack of medical-legal understanding on the part of many practicing physicians.

Physician-patient relations, missing or inadequate medical records, incomplete diagnostic tests, failure to call in consultation on difficult cases, and delayed reporting of incidents are but a few of the causative or contributory factors which aggravate the claims picture and which are felt to be correctible through educational programs.

During the past year, your Council has conducted such programs at the county medical society level in McAlester, Muskogee, Lawton, Tulsa, Pauls Valley and Ponca City. Attendance has been excellent and the response to the programs presented by St. Paul attorneys has been most rewarding. Plans for next year include the continuance of this educational effort.

Communications between the Council on Insurance and St. Paul have been vastly improved. Notices of loss are now mailed to the OSMA on each claim, whether real or threatened, and excellent claims reports summarizing the entire program activity have been furnished by the company every two months. In addition, the year's experience is recapitulated in complete detail at the close of the calendar year.

The adverse trend in the professional liability program has been temporarily reversed during 1964. At a recent meeting with St. Paul officials, it was learned that 1964 losses were the most favorable since the inception of the program in 1952. Whereas the 1963 loss ratio was 135 per cent, the loss ratio for 1964 was only 31 per cent.

However, it must be observed that a loss ratio of 51 per cent is considered the break-even point for underwriting profit by the insurance company. Prior to the encouraging 1964 loss report, the overall loss ratio for the history of the program was 76 per cent, and even though last year's improvement lowered this overall figure to 68.4 per cent, it is obvious that 1964 experience must be repeated if we are to realize premium reductions in the future.

SECTION V *Recommendations*

1. The awareness of physicians toward the legal implications of medical practice must be encouraged, and educational programs of this nature should be continued by the Council on Insurance during the next organizational year.

2. The long-range success of the OSMA's disability income, overhead expense and life insurance programs depends upon the continued enrollment of new physicians each year, and accelerated activity in this area must be a major responsibility of the Council on Insurance in the years ahead.

3. To assist in the accomplishment of the foregoing recommendations, it is recommended that the OSMA Council on Insurance appoint one liaison representative in each county medical society, whose duties would be: To keep well-informed on all OSMA insurance matters and to regularly report to his county medical society; to assist in developing special educational programs for

his colleagues; and to contact new OSMA members promptly upon election to membership concerning the advantages of enrollment in the various association insurance programs.

COUNCIL ON PUBLIC HEALTH **Report to the House of Delegates**

May 14th, 1965

Council Members

Hayden H. Donahue, M.D., Chairman	Norman
Robert L. Loftin, M.D.	Broken Bow
Joe M. Parker, M.D.	Oklahoma City
Gifford H. Henry, M.D.	Tulsa
William H. Reiff, M.D.	Oklahoma City
Robert K. Endres, M.D.	Tulsa
C. Frank Knox, M.D.	Tulsa
Howard B. Shorbe, M.D.	Oklahoma City
George H. Guthrey, M.D.	Oklahoma City
J. Walker Morledge, M.D.	Oklahoma City
John W. Records, M.D.	Oklahoma City
Avery B. Wight, M.D.	Enid
Nolen L. Armstrong, M.D.	Oklahoma City
Don H. O'Donoghue, M.D.	Oklahoma City
Kirk T. Mosley, M.D.	Oklahoma City
John X. Blender, M.D.	Cherokee
Francis A. Davis, M.D.	Shawnee

The Council on Public Health is comprised of the following committees:

- Cancer Committee, Joe M. Parker, M.D., Chairman
- Disaster Medical Care Committee, Gifford H. Henry, M.D., Chairman
- Immunization Education Committee, Nolen L. Armstrong, M.D., Chairman
- Maternal Mortality Study Committee, John W. Records, M.D., Chairman
- Mental Health Committee, George H. Guthrey, M.D., Chairman
- Perinatal Problems Committee, Farris W. Coggins, M.D., Chairman

SECTION I **SPECIAL COUNCIL ACTIVITIES**

A. Cornell Automotive Crash Injury Research Study: The Board of Trustees approved OSMA participation in this project on July 14, 1963. Last May, the House of Delegates approved continued participation in the study.

The Cornell Automotive Crash Injury Research Study is a two-year research project designed to obtain reliable data on the frequency, nature, and specific causes of injury to occupants of passenger cars and trucks involved in accidents. Medical data submitted by physicians treating accident victims is matched with information on injury causes and accident data supplied by in-

vestigating state patrol officers. This information or data is then submitted to Cornell University for analysis and statistical tabulation. Cornell's research findings are finally transmitted to automotive manufacturers in the form of recommendations for improvement in safety design and engineering features.

The study, which officially began January 1st, 1964, is scheduled to last two and one-half years. Taking two Oklahoma Highway Patrol districts in a given six-month period and concentrating the study to counties confined within the districts, the study is presently being conducted in the third such district.

Others participating in the research study include the Oklahoma State Health Department, Oklahoma State Highway Patrol and Oklahoma Hospital Association.

Recommendation

The Council urges continued participation in the two and one-half year study.

B. Regional Conference On Aging and Long-Term Care: The Council on Public Health worked in cooperation with the American Medical Association's Committee on Aging in sponsoring the six-state regional Conference on Aging and Long-Term Care.

The Conference was held in Oklahoma City's Skirvin Tower Hotel on October 15th-16th, 1964. Over 400 persons from Oklahoma, Texas, Arkansas, Kansas, Louisiana and Missouri attended. The audience was made up of representatives from medicine, health and welfare associations, business, labor, churches, schools, civic clubs, retired persons organizations and the communications media.

The purpose of the two-day conference was to explore new needs and report on new developments to enrich living among older people—in employment, health maintenance, adult education, service to community and preparation for later years. Moreover, its purpose was to identify new approaches in facilities and programs for long-term patients of all ages; to improve the coordination of services to meet individual needs; to promote rehabilitation; and to consider financing of care.

C. Multi-Agency Committee On Smoking and Health: On July 26, 1964, the OSMA

Board of Trustees approved participation by this Council in the educational endeavors of the Multi-Agency Committee on Smoking and Health.

The cooperative committee is comprised of representatives of the Oklahoma State Medical Association, Oklahoma Tuberculosis Association, Oklahoma State Heart Association, Oklahoma Division of the American Cancer Society, State Health Department, State Department of Education, State Thoracic Society, and Indian Health Service.

The purpose of the committee was to design, produce and distribute a brochure listing an index of educational materials available on the subject of the relationship between smoking and health.

The OSMA designed the brochure entitled "Oklahoma Looks at Smoking and Health." It contains 32 different educational materials which can be ordered by any interested group or person. A total of 15,000 copies of the brochure were printed for distribution to schools, physicians and others. The cost of printing was borne proportionately by each organization represented on the committee.

Recommendation

The Council urges continued participation and medical leadership on the Multi-Agency Committee on Smoking and Health.

D. *AMA Institute on Alcoholism*: The Oklahoma State Medical Association in cooperation with the American Medical Association's Committee on Alcoholism and Drug Addiction sponsored the AMA Institute on Alcoholism, held in Tulsa's Mayo Hotel, April 8th.

Your Council on Public Health had the pleasure of serving as the OSMA's coordinating body, along with the Tulsa County Medical Society.

Every doctor in the state was invited to attend the meeting. The Institute was held simultaneously with the Annual Meeting and Workshops of the National Council on Alcoholism, held also in Tulsa, April 7th-9th.

SECTION II CANCER COMMITTEE

A number of states now have a Cancer Coordinating Committee or a Cancer Commission. Your Cancer Committee has re-

viewed the functions of several of these groups, and the committee feels there would be no real advantage for either such group in Oklahoma at this time.

Recommendation

It is recommended that the Cancer Committee continue in order to function in cancer control work and to assist in coordinating cancer efforts throughout the various agencies within Oklahoma.

SECTION III DISASTER MEDICAL CARE COMMITTEE

Three years ago, the OSMA assumed leadership in inaugurating the Medical Self-Help Training Courses. These courses have been carried out very successfully this year throughout the entire state.

With prior approval from county medical societies, the Oklahoma Civil Defense, State Health Department, and this committee furnish the supervision and guidance for the Self-Help Training Courses being taught.

This committee stays abreast of the latest developments in disaster medical care activities by handling all communications from National Civil Defense and various committees of the American Medical Association.

Recommendation

That the Disaster Medical Care Committee remain operative for the purpose of serving as medicine's official liaison in disaster preparedness functions.

SECTION IV IMMUNIZATION COMMITTEE

The Council on Public Health asked for and received approval from the OSMA Board of Trustees on July 26, 1964 to create a special three-man Committee on Immunization.

The function of this committee has been to work with and assist the State Health Department in developing and implementing a statewide year-round program on immunization education.

The necessity for forming this committee was made evident when the Council recognized it was unable to sustain a statewide immunization education program on a year-round basis—called for by previous resolutions approved by the House of Delegates.

Moreover, because of increased emphasis by the Council in other areas and since the State Health Department was granted \$160,000 to intensify immunization education, the Committee on Immunization was formed and has worked successfully with the state agency in devising a sound educational program embodying principles set forth by the OSMA.

Recommendation

That the Committee on Immunization continue to function with the State Health Department—in an effort to lend medical guidance in the area of statewide immunization education.

SECTION V MATERNAL MORTALITY STUDY COMMITTEE

The principal work of this committee is the study of maternal deaths in Oklahoma. The reports of these deaths are obtained by the State Health Department which sends questionnaires to the attendants signing death certificates of women whose deaths are related to pregnancy. A report of the committee's evaluation of each death is prepared and sent to attendant signing death certificate. A copy is also sent to the institution where the death occurred, if it is involved. A survey recently completed for the committee for the five years 1957 through 1961 shows that there were 106 such deaths reported out of approximately 252,000 live births in Oklahoma; a rate of 4.1 deaths per 10,000 live births, which compares with the maternal death rate for the United States as a whole of 3.8 deaths per 10,000 live births in the year 1958.

The following three subjects are of great concern to this committee, and the corresponding recommendations or requests are made:

1. The committee has been concerned with the fact that some maternal deaths occur as a result of lack of family planning services in some areas and in some socioeconomic groups in our population. In Oklahoma the risk of dying as a result of pregnancy is greatest for the older child-bearing age group and the non-white mother. Twenty-four per cent of the maternal deaths occurred in Negro mothers who constitute only ten per cent of the obstetrical population in Oklahoma. The mother who is age

35 or over constitutes only five per cent of the state's obstetrical population and yet accounts for thirty-two per cent of the maternal deaths. Lack of family planning services is common to both of these groups.

The committee requested an endorsement by the OSMA that the concept of family planning services is a proper concern of the State Health Department. The explanation and statement of policy were approved at the February 4th meeting of the OSMA Board of Trustees for submission to the House of Delegates at the annual meeting in May. The explanation and statement of policy approved are as follows:

"The Maternal Mortality Study Committee has again considered the subject of family planning services to be sponsored by the State Health Department. The suggestion that the OSMA endorse such a concept was tabled at the meeting of the Board of Trustees on October 25th, 1964. The committee wishes to reiterate its position that as physicians we accept responsibility for the maintenance of good health among the population in which we participate. This is why we study factors which contribute to poor health; in this instance, maternal mortality and morbidity. Conclusions from these studies establish we rightly should recommend to the medical community preventive and therapeutic measures known to be effective.

"Conclusions also indicate increasing deleterious effect of uncontrolled and expanding population pressure. Frequent cases of maternal mortality reviewed by the committee have shown a lack of family planning counseling to be a direct or indirect causative factor. The known adverse effect of over-population on perinatal survival, the number of mentally retarded children and children with other birth defects are increasing. Most of the casualties of the perinatal period occur among the indigent — the same group which contributes so greatly to the expanding population.

"Last December, the House of Delegates of the American Medical Association approved a policy on population control. This policy strongly recommended widespread dissemination of family plan-

ning information as a 'matter of responsible medical practice.' The House reversed a 1936 stand against cooperation with lay organizations in the conception control area and also recommended dispensing such information to all patients in need, 'consistent with their creed and mores,' including those cared for under tax or community supported health services.

"Birth control advice is currently offered by many private physicians throughout the state. Students at our medical school are taught the importance of family counseling and the methods of family planning. These physicians will carry this information into their practices throughout the state. Family planning is preventive medicine, every bit as important as immunization programs, venereal disease prevention, mental hygiene, cancer detection and tuberculosis control. The area of family planning is more valuable than many already accepted public health functions.

"An endorsement consistent with the one approved by the AMA is requested from the OSMA at this time. This endorsement should be forwarded to the Director of the State Health Department.

"The committee also recommends that the physicians throughout the state be encouraged to support this activity in terms of advice, assistance and referral to approximate patients."

Statement of Policy on Human Reproduction and Population Control

1. An intelligent recognition of the problems that relate to human reproduction, including the need for population control is more than a matter of responsible parenthood; is it a matter of responsible medical practice.

The medical profession should accept a major responsibility in matters related to human reproduction as they affect the total population and the individual family.

3. In discharging this responsibility physicians must be prepared to provide counsel and guidance when the needs of their patients require it or refer the patients to appropriate persons.

4. The AMA shall take the responsibility for disseminating information to physicians on all phases of human reproduction, includ-

ing sexual behavior, by whatever means are appropriate.

5. It is recommended that the AMA cooperate with the appropriate organizations in the field of human reproduction which have adequate medical direction.

6. There should be no restraints on the physicians concerning the dissemination of birth control information, and, as with other forms of quality medical care, such information should be equally available to both private and clinic patients. It is recognized, however, that in some areas restraints do exist for both physicians as purveyors and patients as recipients of such information.

There is need for amplification of the 1937 policy statement of the AMA which reads, "information and advice concerning the prevention of conception given in dispensaries, clinics and similar establishments should be given only in dispensaries, clinics and similar establishments legally licensed to treat the sick and under medical control."

The prescription of child-spacing measures should be made available to all patients who require them, consistent with their creed and mores, whether they obtain their medical care through private physicians or tax or community supported health services.

7. Emphasis should be given to teaching the total picture of "reproduction," including sexual behavior, in medical schools. This teaching can be included in many of the present curricula and need not involve adding new courses.

Recommendation

The committee recommends that the OSMA House of Delegates approve the explanation and policy statement relating to human reproduction and population control which is consistent with the one adopted in December by the AMA House of Delegates and subsequently, which was approved on February 4th by the OSMA Board of Trustees.

The committee further recommends that physicians throughout the state be encouraged to support this activity in terms of advice, assistance and referral of appropriate patients.

2. Over the five-year period 1957 to 1961 inclusive, 106 maternal deaths were studied. Of these deaths, approximately 50 per cent were considered to be preventable.

This points to a need for further postgraduate education of all medical and paramedical personnel who deal with obstetrical patients.

Over two-thirds of the 106 deaths were caused by either hemorrhage, toxemia or infection which are leading causes of maternal deaths nationally. One-third of the deaths were caused by hemorrhage. Of the 32 deaths caused by hemorrhage, facilities for blood transfusion were lacking in ten and this fact was instrumental in the deaths of these mothers.

Recommendation

The committee strongly recommends that the OSMA determine the cause of these deficiencies in supply of blood and take remedial action.

3. The committee finds that nearly 20 per cent of its questionnaires that are sent out are not returned. In 30 per cent of the questionnaires there is insufficient information to fully evaluate the case. Thus, about one-half of the maternal deaths are either not reviewed by the committee, or the information in the questionnaire is insufficient.

The committee, therefore, asks two questions of OSMA:

A. Does OSMA consider the continuation of maternal mortality study to be a worthwhile means of improving postgraduate education in obstetrics?

B. If the answer to No. A is in the affirmative, what means can the Maternal Mortality Committee use to improve quantity and quality of returned questionnaires?

One suggestion that has been made in answer to the latter question is that permission might be asked to have each case reviewed by a specialist selected by the committee in person, with review of hospital records and direct interview with all physicians involved. The committee feels that such an arrangement could be worked out with the approval of the OSMA.

It is to be emphasized that the objective of these studies is not to find fault but through education to correct errors in order to bring about better care for mothers in Oklahoma.

SECTION VI *MENTAL HEALTH COMMITTEE*

During the course of this year, your Committee on Mental Health has:

1. Printed 4,000 copies of the OSMA statement of policy regarding mental health—approved last May by the House of Delegates.

The publication is entitled "New Action For Mental Health In Oklahoma." Over 1,500 copies have been sent to interested persons throughout the state and nation.

2. Successfully sponsored one of the largest, if not the largest, Statewide Conferences on Mental Health and Retardation held to date in any state.

The conference was held in Oklahoma City on February 4th. More than 1,000 Oklahomans attended. Registrants for the conferences on Mental Health and Retardation Legislature and representatives from a variety of professional, private and governmental organizations sharing the common interest of improving the state's mental health program.

The program featured an illustrious cast of speakers, including top officials from the state and federal governments, as well as professional mental health leaders of national stature.

Governor Bellmon, key leaders of the Oklahoma Legislature and the press hailed the conference as a gesture by Oklahoma medicine to take its rightful place by furnishing the leadership and scientific knowledge in order to develop a better mental health program for all Oklahoma.

The expenses incurred by the conference were borne for the most part by direct assistance from Smith, Kline and French Laboratories and the AMA's Department of Mental Health. Smith, Kline and French contributed \$750.00 and the AMA, \$875.00. The balance cost of \$345.00 came from the Council on Public Health budget.

Recommendation

The Committee on Mental Health recommends sponsorship of another Statewide Conference on Mental Health and Retardation at an acceptable date in 1967, when the 31st Oklahoma Legislature will be in session; providing, however, that adequate financial assistance is made available by the AMA and/or others.

SECTION VII *PERINATAL PROBLEMS COMMITTEE*

As a result of Senate Bill No. 87, the committee prepared testimony which the OSMA

State Legislature used as a resource in considering action on the measure.

Senate Bill No. 87 proposed a statement of public policy that physicians should perform tests on all newborn in an effort to detect phenylketonuria and other metabolic disorders. It also proposed that the State Health Department would prescribe tests to be used and would initiate educational programs to bring about early detection.

Your Perinatal Problems Committee opposed the public policy provision on the basis of inaccuracy in most available testing procedures and, because of the additional hospital stay required on the part of the newborn in order to properly perform testing. The committee, moreover, favored an educational approach as contained in Section II of the bill.

COUNCIL ON INTERPROFESSIONAL RELATIONS (Tentative) Report to the House of Delegates

May 14th, 1965

Council Members

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Frank W. Clark, M.D.	Ardmore
Francis A. Davis, M.D.	Shawnee
Walter H. Dersch, Jr., M.D.	Shattuck
Joe L. Duer, M.D.	Woodward
Elmer R. Ridgeway, Jr., M.D.	Oklahoma City
Francis R. First, M.D.	Checotah
Allen E. Greer, M.D.	Oklahoma City
Maxwell A. Johnson, M.D.	Tulsa
Port Johnson, M.D.	Muskogee
Thomas C. Points, M.D.	Oklahoma City

Committees of the Council are:

Medical-Legal Relations

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Kieffer Davis, M.D.	Myra A. Peters, M.D.
E. F. Lester, M.D.	David Ramsay, M.D.
William T. Snoddy, M.D.	

Nursing

Francis Pruitt, M.D., Chairman	
William R. Cheatwood, M.D.	Elmer R. Ridgeway, Jr., M.D.
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Medicine and Religion

Allen E. Greer, M.D., Chairman	
Elvin Amen, M.D.	E. N. Lubin, M.D.
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Pharmacy

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John F. Burton, M.D.	Herbert S. Orr, M.D.
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Osteopathy

Maxwell A. Johnson, M.D., Chairman	
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John E. Highland, M.D.	Tom C. Sparks, M.D.
Lloyd A. Owens, M.D.	James H. Tisdal, M.D.
Kelly M. West, M.D.	

SECTION I THE COUNCIL

This has been the first full year of operation for the Council on Interprofessional Relations. Its overall purpose is to coordinate the study of medicine's relationships with other professional and paramedical groups in an effort to promote better understanding, to develop long-range plans and interprofessional codes where indicated, and to generally stay abreast of problematical situations which might exist between one or all of the groups and the medical profession.

At the beginning of the organizational year, the Council conducted a briefing session with committee chairmen working under its direction and outlined basic areas of interest for committee activity. Thus, the bulk of activity in the area of interprofessional relations has been carried out by specialized committees.

One project which has been the primary responsibility of the Council is the development of a Code for Medical-Press Relations (with all news media, including newspapers, radio and television).

The need for such a uniform guide in Oklahoma has been apparent for some time. Sample codes were collected from other states and studied, and informal liaison was established with the Oklahoma Press Association and other news media groups.

At the present time, a suggested code is being drafted by D. Earl Newsom, Chairman of the Department of Journalism, University of Maryland, who is temporarily in Oklahoma conducting special projects in cooperation with the Oklahoma Press Association.

The code will be subjected to the critical review of your Council members plus representatives of all other interested associations and groups. Then, it will be presented to the policy-making bodies of all interested organizations for official adoption. Upon gaining such approval, the code will be printed and widely distributed throughout the state.

Recommendations

Council and committee activities should be continued toward the objectives of improved relationships with other groups and long-range planning. Continuity of personnel in the OSMA organizational structure is of supreme importance.

SECTION II MEDICAL-LEGAL RELATIONS COMMITTEE

No significant problems were presented in this area of interest during the past year. However, an objective for the future will be to establish improved liaison with the counterpart committee of the Oklahoma Bar Association, and to revise and implement the existing Code of Cooperation between the Oklahoma Bar Association and the OSMA.

SECTION III COMMITTEE ON NURSING

At the beginning of the year, projects of mutual interest were anticipated between the association and the Oklahoma Nurses Association, but no specific proposals were made by either group.

Recommendations

Increased activity in this area is undoubtedly warranted. Specifically, the association committee should join the Oklahoma Nurses Association and the Oklahoma Hospital Association in developing an improved student nurses recruitment program.

SECTION IV MEDICINE AND RELIGION COMMITTEE

The committee has met on three occasions. One of the main activities has been its effort to develop committees on medicine and religion at the county medical society level, where the ultimate goal of improving patient care through better physician-clergy relations can be put to work on a practical basis. (Excellent guides for local programs have been developed for distribution to county society chairmen.)

To date, only fourteen county medical societies have created a medicine and religion committee, and only five societies report the conduct of joint programs with the clergy.

Another major activity of the OSMA Committee has been the planning of the Second Annual Peter E. Russo Memorial Conference on Medicine and Religion. This program will be presented on May 15th, from 1:45 p.m. until 3:15 p.m. in the Tulsa Assembly Center.

Principal speakers for this meeting are: Donovan F. Ward, M.D., Dubuque, Iowa, President of the American Medical Association; Reverend Doctor Charles F. Kemp, Fort Worth, Texas, Professor of Religion, Brite Divinity School, Texas Christian University; and, Reverend Doctor Paul B. McCleave, Chicago, Chairman of the AMA's Department of Medicine and Religion.

Attendance to the conference is limited to physicians, clergymen and their wives. It is hoped that all members of the House of Delegates will participate in this important meeting.

Recommendations

1. A continued effort should be made by the OSMA Medicine and Religion Committee to interest county medical societies in establishing formal liaison with the clergy at the county and city levels.

2. Based on the response to the program presented May 15th, the Peter E. Russo Memorial Conference on Medicine and Religion should be continued as a regular feature of the OSMA annual meeting.

SECTION IV COMMITTEE ON PHARMACY

The committee held four meetings during the year with representatives of the Oklahoma Pharmaceutical Association.

As a result of these meetings, rapport and mutual understanding between the two professional groups have been greatly strengthened. In addition to a general exploration of miscellaneous problems needing the attention of the professions in their daily contacts with each other and with patients, specific liaison projects were undertaken.

Articles have been exchanged for publication in the respective journals of the two associations, and a panel discussion was formulated for presentation to the annual meeting of the Oklahoma Pharmaceutical Association. An effort was made to present a similar panel discussion on physician-pharmacist re-

lations at the annual OSMA County Officers Conference, but the program this year was completely devoted to the Medicare-Elder-care issue.

The major accomplishment of the committee, working with pharmaceutical association representatives, was to draft a Physician-Pharmacist Code of Understanding. This proposed policy is in keeping with the policy of the American Medical Association and is consistent with the rulings of the AMA Judicial Council. Upon gaining official approval of this code by the two state associations, it is the intent to circulate the code throughout the state and to initiate educational and liaison activities for the purpose of attaining widespread implementation of the stated principles.

Below is the proposed Physician-Pharmacist Code of Understanding as presented for the consideration of the House of Delegates:

PHYSICIAN-PHARMACIST CODE OF UNDERSTANDING *Preamble*

The purpose of this Code of Understanding is to improve relations between Doctors of Medicine and Pharmacists. Its provisions are intended as guides for physicians and pharmacists in their interrelated practices in the areas covered by it.

The Code of Understanding is not a pronouncement of law, but constitutes suggested rules of conduct for the members of these old and honored professions, each subject to the principles of ethics governing their respective members.

This Code recognizes that Doctors of Medicine and Pharmacists are dependent upon one another in serving patients.

It is the hope of the parties who have participated in the development of this Code of Understanding that by an improved and closer relationship between the professions of medicine and pharmacy, the public will be better served.

Physician

For many years the Principles of Medical Ethics of the American Medical Association stated that physicians should recognize and promote the practice of pharmacy as a profession. Physicians should also recognize the cooperation of the pharmacist in educating

the public on the practice of ethical and scientific medicine. Physicians should be aware of this ideal and observe it.

The physician should recognize the specialized training of the pharmacist and utilize his services whenever it is in the best interest of the patient.

Physicians should recognize that the patient has the same right to select the pharmacist of his choice as he has the right to select the physician of his choice. Therefore, the physician should not do anything to impair the exercise of this right by the patient.

The Doctor of Medicine is under an obligation to recognize the legal and professional prohibitions which exist as regards secret formulae, coded prescriptions, rebate arrangements and the like, and he shall not make use of any prescription blanks supplied to him which bear the name of a pharmacist or pharmacy nor enter into arrangements for a direct phone line between his office and a pharmacy.

When there is doubt regarding the quantity of ingredients of a prescription, the physician should willingly cooperate in clarifying the problem.

The physician and the pharmacist should work together as a team providing the patient with proper medication. Through this teamwork, patients will be properly served.

Pharmacist

The pharmacist should never diagnose or prescribe even at the insistence of the patient. He should refer those needing medical attention to a licensed physician of the patient's choice.

The sale of proprietary products and home remedies that have been released by the Federal Food and Drug Administration for over-the-counter sale which the patient may request for self-medication shall not be considered prescribing by the pharmacist.

In an emergency the pharmacist may render such first-aid treatment as is indicated by good judgment.

The pharmacist should consult the physician outside the presence of the patient whenever he has any questions concerning a prescription, and he should have facilities for private reference and for telephone consultation.

Under no circumstances may a pharmacist substitute ingredients without the specific approval of the prescribing physician.

The pharmacist shall follow exactly the prescriber's directions in the refilling of a prescription. If no refilling instructions are contained on the original prescription, the pharmacist will not refill such prescription without the authority of the prescriber.

The pharmacist is under an obligation to provide complete professional pharmaceutical services to his community.

The pharmacist must recognize the legal and professional prohibitions which exist as regards secret formulae, coded prescriptions, rebate arrangements and the like, and he shall not advertise or solicit professional practice by means of providing doctors of medicine with prescription blanks imprinted with the name of the pharmacist or his pharmacy nor by means of a direct phone line between his pharmacy and the office of a doctor of medicine.

Mutual Understanding

The profession of Medicine and the profession of Pharmacy reciprocally acknowledge the foregoing obligations of conduct and understanding. Both professions recognize that each fosters these ethical standards by which the propriety of practice may be determined.

Moreover, should any conduct or practice by doctors of medicine or pharmacists be of concern to practitioners of the other profession, efforts should be made through the respective county and state societies to resolve questions or problems relating to such conduct or practice. Practitioners of Medicine and Pharmacy should expose, without hesitation, illegal or unethical conduct of members of either profession. It is hoped that county medical societies and pharmaceutical associations will amplify these understandings.

Permanent liaison committees should be established by both professional groups at the state association and county levels.

Disciplinary committees should be established and utilized by both professional groups for the implementation of this code.

Recommendations

1. It is recommended that the House of Delegates approve the Physician-Pharmacist Code of Understanding.

2. It is recommended that the Committee on Pharmacy be continued as a permanent part of the association's committee structure, and that counterpart committees be established and programs developed at the county medical society level.

SECTION V COMMITTEE ON OSTEOPATHY

The committee met on four occasions during the preceding organizational year. Your committee's assignment has been to evaluate the complex problems of professional relations with doctors of osteopathy in the light of present conditions, and to make recommendations concerning the development of a current association policy.

Background of Problem:

Changing relationships between M.D.s and D.O.s were studied at the national, state and local levels.

On the national scene, the American Medical Association relaxed its policy toward osteopaths in 1961, to permit ethical fraternization with osteopaths who practice according to scientific principles, but implementation of this policy was left to constituent associations. According to Samuel P. Newman, M.D., Chairman of the AMA Committee on Osteopathy and Medicine, who met with the OSMA committee on December 6th, this policy has been placed into effect by 14 state medical associations since 1961.

There are about 14,000 Doctors of Osteopathy in the United States, and 374 of these practice in Oklahoma. A study of the Oklahoma situation was conducted by your committee.

When Doctors of Osteopathy are considered in ratio to Doctors of Medicine, Oklahoma is one of the leading states in terms of osteopathic significance. Osteopaths not only control nearly 30 hospitals of their own, but have also gained medical staff privileges at 19 public-owned hospitals which were restricted to Doctors of Medicine in the past.

Doctors of Medicine practicing in these 19 communities were surveyed by the OSMA committee regarding their reactions to osteopaths. Here are some significant facts revealed by the survey:

1. In some hospitals, osteopaths and doctors of medicine are assisting each other in surgery.

2. Out of 39 M.D. respondents, 29 rated the quality of osteopathic care as either "good" or "fair," while three rated it as "excellent" and seven judged it as "poor."

3. The preponderance of replies indicated that osteopaths were practicing according to scientific principles.

4. The relationship between M.D.s and D.O.s in integrated hospitals was felt to be satisfactory by 28 respondents, and unsatisfactory by 10.

5. About one-half of the physicians who replied thought osteopaths were acting responsibly in limiting the scope of their practice, controlling the quality of care, controlling hospital utilization, etcetera.

It is apparent that M.D.s have a variety of attitudes toward D.O.s, and that any recommendations which might be made will attract opposition from a significant number of medical doctors.

But the fact remains that approximately 20 per cent of the health care being rendered in Oklahoma today is through the osteopathic profession, and in a few rural counties the osteopaths actually outnumber medical doctors.

It is undoubtedly true that the majority of osteopaths in Oklahoma are practicing medicine rather than osteopathy, and that many practical problems exist in regard to the referral of patients from one profession to the other, consultations on behalf of the patient, etcetra.

It is also true that 344 out of 374 osteopaths in this state are fully licensed to practice medicine and surgery.

Therefore, in view of the changed policy of the American Medical Association, and in view of the fact that a transition is taking place in the osteopathic educational discipline, and because of the very real inter-professional relations problems involving patient care which exist in Oklahoma today, your committee feels that an adjustment in the policy of the Oklahoma State Medical Association is not only appropriate from a professional standpoint, but is also required from the viewpoint of improved patient care.

The following policy statement is offered for the consideration of the House of Delegates:

STATEMENT OF POLICY MEDICAL AND OSTEOPATHIC PHYSICIAN RELATIONS

Preamble

The Oklahoma State Medical Association is dedicated to the promotion of the art and science of medicine . . . Doctors of Medicine, acting both individually and collectively, are constantly striving to improve the health and welfare of the people they serve.

The attainment of this goal not only requires a continuing adjustment by all medical doctors to the dynamic developments taking place in the field of medical science, but also places great responsibility upon the medical profession to periodically evaluate total health care conditions as they affect the public, including those which lie outside the immediate sphere of medical practice.

One of the most important areas of concern to the medical profession is a continuing study of the quantity and quality of care being rendered to citizens by other licensed practitioners of the healing arts.

In making such evaluations, there can be no compromise of the proven principles of modern medical science and the ethics of practice to which the medical profession adheres; both of which have meant so much to the well-being of the human race.

Statutory recognition of non-scientific healers is not in the best public interest, and does not influence the medical profession in its ethical and professional obligations to patients, nor does it compromise the medical profession in its professional relationships with such non-scientific practitioners.

This position is officially expressed in Section 3 of the Principles of Medical Ethics of the American Medical Association:

"A physician should practice a method of healing founded on a scientific basis; and he should not voluntarily associate professionally with anyone who violates this principle."

This ethical principle, and its application to cultists who follow a tenet or principle based on the authority of its promulgator to the exclusion of demonstration and scientific experience, are reaffirmed by the Oklahoma State Medical Association.

In the past, this ethical principle and the prohibition against voluntary professional associations have been applied to Doctors of

Osteopathy. In 1961, however, the American Medical Association, after several years of investigation, officially recognized the transition of osteopathy toward scientific medicine, and declared that it was no longer unethical from the national standpoint to voluntarily associate professionally with those Doctors of Osteopathy who practice according to scientific principles.

The application of this declaration by the parent body of the Oklahoma State Medical Association has been left to the judgment of local, state, and county medical societies.

Principles of medical science which guide medical practitioners remain constant, and ethical considerations influencing professional relationships with other healing arts are unchanged. It is the educational discipline of osteopathy which has undergone change, and the results of this change are recognized by this revised statement of policy, which has been formulated for the primary purpose of improving patient care in Oklahoma.

The policy statement is permissive, not mandatory; it permits county medical societies to grant recognition to certain Doctors of Osteopathy, and provides guidelines for determining qualifications.

Professional Association With Doctors of Osteopathy

The following statement shall govern the future relationships between Doctors of Medicine and Doctors of Osteopathy:

1. There can never be an ethical relationship between a Doctor of Medicine and a cultist; that is, one who does not practice a system of healing founded on a scientific basis.

2. There can never be a majority party and a minority party in scientific medical practice. There cannot be two distinct sciences of medicine nor two different, yet equally valid systems of medical practice.

3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an attempt by a significant number of those practicing osteopathic medicine to provide their patients with scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

4. It is appropriate for the Oklahoma State Medical Association to reappraise its

application of policy regarding relationships with Doctors of Osteopathy, in view of the transition of osteopathy toward scientific medicine, in view of the fact that colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

5. Policy should now be applied individually at the county medical society level according to the facts as they exist.

The test should be: Does the individual Doctor of Osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional relations with him are unethical. If he practices on the same scientific principles as those adhered to by members of the Oklahoma State Medical Association, voluntary professional relationships with him should not be deemed unethical.

6. For the purpose of identifying scientific practitioners at the county medical society level, the term "scientific medicine" is defined as follows:

"Scientific medicine involves the diagnosis and treatment of diseases by persons who, among other qualifications, have passed the Oklahoma Basic Science examination or its equivalent, utilizing current documented knowledge of anatomy, physiology, pathology, pharmacology and bacteriology. Diagnosis must be based on a thorough history, physical examination, and laboratory studies. Therapy must be limited to those types currently in use and accepted by the medical profession, and having been demonstrated to be scientifically sound."

7. For the purpose of evaluating individual Doctors of Osteopathy, certain criteria are recommended:

a. The Doctor of Osteopathy must have qualified to practice osteopathic medicine and surgery under the Oklahoma Osteopathic Practice Act, which confers on him unrestricted rights and legal recognition in Oklahoma as a physician.

b. He must practice a method of healing founded on the principles of scientific medicine.

c. He must in good faith endeavor to conform to ethical principles equivalent to the Principles of Medical Ethics of the American Medical Association.

d. His professional and scientific competence must be such that he can give his patients scientific medical care and make contributions to programs to maintain and improve the health of the community.

8. Notwithstanding the collective action of a county medical society, the ultimate decision to associate or consult professionally must reside with the individual Doctor of Medicine and the Doctor of Osteopathy.

9. The matter of hospital staff membership is rightfully a decision for each hospital to make. The same standards used by a hospital in deciding whether staff privileges should be extended to a Doctor of Medicine

should be used in deciding whether staff privileges should be extended to a Doctor of Osteopathy. Since it is important to the public welfare that hospitals seek accreditation by the Joint Commission on Accreditation of Hospitals, the commission's policy regarding hospitals with integrated staffs should be observed.

Recommendations

1. It is recommended that the House of Delegates approve the Statement of Policy on Medical and Osteopathic Physician Relations.

2. It is recommended that the Committee on Osteopathy be continued and, in the event the Statement of Policy is approved, the committee should assume administrative responsibility for its implementation.

RESOLUTIONS

The bylaws of the Oklahoma State Medical Association require resolutions to be submitted thirty days in advance of the annual House of Delegates meeting, or, in the case of the 1965 meeting, before April 14, 1965. However, late resolutions may be introduced to the House of Delegates if first approved by the OSMA Board of Trustees, which meets in Tulsa on May 13th.

Authors of late resolutions should mail them to the OSMA Executive Office, P.O. Box 18696, Oklahoma City. They will be referred to the Board of Trustees on May 13th. Individual resolutions must be signed by the individual member; county society resolutions must be signed by the society secretary.

ANNUAL MEETING TELEPHONE MESSAGE CENTER

While you are attending the Annual Meeting, your emergency calls may be referred to

LUther 2-8978 and LUther 2-8980

These phones will ring at the Registration Desk at the Assembly Center.

WOMAN'S AUXILIARY

to the

OKLAHOMA STATE MEDICAL ASSOCIATION

MAY 13th, 14th, 15th, 1965

MAYO HOTEL

TULSA, OKLAHOMA

MRS. LEONARD L. KISHNER
Convention Chairman

MRS. HAROLD J. BLACK
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MRS. EARL M. BRICKER
Oklahoma City
Treasurer



MRS. E. COTTER MURRAY
Oklahoma City
Treasurer-Elect

HONORED GUESTS



MRS. RICHARD A. SUTTER

Mrs. Richard A. Sutter, of St. Louis, Missouri, was installed as president-elect of the Woman's Auxiliary to the American Medical Association at the 41st annual convention in June, 1964 in San Francisco. She is listed in "Who's Who of American Women" as a civic leader with such responsibilities as Chairman of the St. Louis County Health and Hospital Advisory Board, Chairman of the Citizens' Committee which was successful in obtaining passage of an ordinance to fluoridate the water supply of St. Louis County, member of the planning board of the Health and Welfare Council of Metropolitan St. Louis, and is active in many other health-connected and cultural organizations in her home town.



MRS. JORDAN KELLING

Mrs. Jordan Kelling, President of the Woman's Auxiliary to the Southern Medical Association, lives in Waverly, Missouri. She has served as President of the Woman's Auxiliary to the Missouri State Medical Association, and is now serving her second year as National Chairman of the Disaster Preparedness Committee of the Auxiliary to the American Medical Association. In that capacity she has been especially busy promoting the Medical Self-Help Training program, and also the Block Mother Plan whereby mothers volunteer to be on duty in their homes to aid children in cases of emergency while enroute to and from school.



MRS. VIRGIL RAY FORESTER

Mrs. Virgil Ray Forester of Oklahoma City is Safety Chairman for the Woman's Auxiliary to the American Medical Association. She is also Corresponding Secretary of the Woman's Auxiliary to the Oklahoma State Medical Association. Mrs. Forester has served as president of the State Auxiliary and has been an active worker in both county and state health groups. She is an accomplished musician with a wide variety of interests.

GENERAL INFORMATION

FRIDAY, MAY 14th, 1965

REGISTRATION—FOUNDERS ROOM MAYO HOTEL—MEZZANINE

Thursday, May 13th.....1:30 p.m.-5:00 p.m.
Friday, May 14th.....9:00 a.m.-5:00 p.m.
Saturday, May 15th.....9:00 a.m.-1:00 p.m.

HOSPITALITY ROOM—FOUNDERS ROOM MAYO HOTEL—MEZZANINE

The Hospitality Room will be open during registration hours Thursday, Friday and Saturday for the convenience of members and guests. Refreshments will be served.

TICKETS—FOUNDERS ROOM MAYO HOTEL—MEZZANINE

Tickets for the Tea and Book Review, Tour of Thomas Gilcrease Institute of American History and Art, and the Inaugural Luncheon will be sold at the Registration Desk.

DOCTORS' DAY EXHIBITS MAYO HOTEL—MEZZANINE

CHAIRMAN: Mrs. Allen B. Eddington, Tulsa
CO-CHAIRMAN: Mrs. Houston F. Mount, Tulsa

MEDICAL ADVISORS:

Joe L. Duer, M.D., Woodward
Alfred T. Baker, M.D., Durant
Tom C. Sparks, M.D., Ardmore
R. R. Hannas, M.D., Sentinel

CONVENTION COMMITTEE

CHAIRMAN: Mrs. Leonard L. Kishner
CO-CHAIRMAN: Mrs. Harold J. Black

Registration.....Mrs. Thomas L. Ozment
Credentials.....Mrs. Robert L. Anderson
Hospitality.....Mrs. Allen B. Eddington
Tea and Book Review.....Mrs. Worth M. Gross
Courtesy.....Mrs. Raymond E. Peeples
Publicity.....Mrs. Houston F. Mount
Tickets.....Mrs. Jack W. Newport
Past-Presidents' Breakfast Mrs. W. R. Cheatwood
Decorations.....Mrs. Robert Dillman
Publicity.....Mrs. Houston F. Mount

PROGRAM

THURSDAY, MAY 13th, 1965

4:30 p.m. to 5:30 p.m.—RECEPTION FOR BOARD MEMBERS, Petroleum Club
7:00 p.m.—PRE-CONVENTION BOARD MEETING.
Dinner, the home of Dr. and Mrs. Leonard L. Kishner, Hostesses, Mrs. L. L. Kishner and Mrs. Harold J. Black

8:00 a.m.—PAST-PRESIDENTS' BREAKFAST, Room A, Second floor. Hostess: Mrs. R. Cheatwood
9:00 a.m.—REGISTRATION AND HOSPITALITY. Mezzanine, Founders Room, Mayo Hotel
10:00 a.m.—FIRST GENERAL SESSION. Emerald Room—Mezzanine, Mayo Hotel, Mrs. J. Ferrell York, Madill, President, Woman's Auxiliary to the Oklahoma State Medical Association, presiding.
CALL TO ORDER: Mrs. York
INVOCATION: Mrs. Clifford Bassett, Cushing, Past-President, Woman's Auxiliary to the Oklahoma State Medical Association.
PLEDGE OF LOYALTY: Mrs. Harlan Thomas, wife of the President of the Oklahoma State Medical Association.
WELCOME: Mrs. Ceylon S. Lewis, Tulsa, President, Woman's Auxiliary to the Tulsa County Medical Society.
RESPONSE: Mrs. Ollie McBride, Ada, Past-President, Woman's Auxiliary to the Oklahoma State Medical Association.
GREETINGS: Rex E. Kenyon, M.D., Oklahoma City, President-Elect, Oklahoma State Medical Association.
INTRODUCTION OF SPECIAL GUESTS.
GUEST SPEAKER: Mrs. Richard A. Sutter, St. Louis, Missouri, President-Elect, Woman's Auxiliary, American Medical Association.
PRESENTATION OF PAST-PRESIDENTS: Mrs. W. R. Cheatwood, Duncan.
ANNOUNCEMENTS: Mrs. Leonard L. Kishner, Tulsa, Convention Chairman.
ROLL CALL BY COUNTIES: Mrs. Harlan Thomas, Tulsa, Secretary.
REPORT OF CREDENTIALS COMMITTEE: Mrs. Robert L. Anderson, Tulsa.
READING AND ADOPTION OF MINUTES: Mrs. Harlan Thomas, Tulsa, Secretary.
TREASURER'S REPORT: Mrs. Earl M. Bricker, Jr., Oklahoma City, Treasurer and Mrs. E. Cotter Murray, Oklahoma City, Treasurer-Elect.
REPORTS OF OFFICERS:
First Vice-President—Mrs. Robert M. Stover, Claremore.
Second Vice-President—Mrs. James B. Silman, Norman.
Corresponding Secretary—Mrs. Virgil Ray Forester, Oklahoma City.
Parliamentarian—Mrs. Tom C. Sparks, Ardmore.
Historian—Mrs. B. J. Cordonnier, Enid.
Editor—"The Sooner Physician's Wife," Mrs. William R. R. Loney, Sr., Tulsa.
Co-Editor—Mrs. Leonard L. Kishner, Tulsa.
Associate Circulation Editor—Mrs. Charles E. Brighton, Tulsa.
Editor, Auxiliary Page, *The Journal*, Oklahoma State Medical Association, Mrs. John D. Ingle, Oklahoma City.
REPORTS OF COMMITTEE CHAIRMEN:
American Medical Association Education and Research Foundation—Mrs. J. Hartwell Dunn, Oklahoma City.

Bylaws—Mrs. John Powers Wolff, Oklahoma City.

Community Service—Mrs. Harold W. Houk, Ponca City.

Disaster Preparedness—Mrs. John W. Williams, Enid.

Doctors' Day—Mrs. Allen B. Eddington, Tulsa.

Doctors' Day Co-Chairman—Mrs. Houston Mount, Tulsa.

Doctors' Hobbies—Mrs. Marshall O. Hart, Tulsa.

Finance—Mrs. F. H. McGregor, Oklahoma City.

Health Careers—Mrs. Port Johnson, Muskogee.

Health Careers Co-Chairman, Mrs. Arthur N. Springall, Oklahoma City.

International Health Activities—Mrs. T. A. Ragan, Norman.

Legislation—Mrs. Frank Flack, Tulsa.

Loan Fund—Mrs. Clifford Bassett, Cushing.

Membership—Mrs. Robert M. Stover, Claremore and Mrs. James B. Silman, Norman.

Mental Health—Mrs. J. H. White, Muskogee.

Press and Publicity—Mrs. John W. Records, Oklahoma City.

Program—Mrs. Glen L. Berkenbile, Muskogee.

Rural Health—Mrs. W. Arthur Hyde, Durant.

Safety—Mrs. Thomas W. Taylor, Tulsa.

Woman's Auxiliary, Student American Medical Association—Mrs. Jess E. Miller, Oklahoma City. Special Guest: Mrs. Donald C. Bailey, Oklahoma City, President, Woman's Auxiliary, SAMA.

REPORT OF NOMINATING COMMITTEE: Mrs. Richard E. Witt, Muskogee, President-Elect.

Historical Research—Mrs. George H. Garrison, Oklahoma City.

MEMORIAL SERVICE: Mrs. Joseph W. Kelso, Oklahoma City.

ANNOUNCEMENTS.

ADJOURNMENT.

2:30 p.m.—BOOK REVIEW—TEA—TOUR OF THOMAS GILCREASE INSTITUTE OF AMERICAN HISTORY AND ART, TULSA,* honoring Mrs. J. Ferrell York, Madill, President and Mrs. Richard E. Witt, Muskogee, President-Elect.

Special Guests: Mrs. Richard A. Sutter, President-Elect, Woman's Auxiliary, American Medical Association; Mrs. Jordan Kelling, President, Woman's Auxiliary, Southern Medical Association; and Mrs. Virgil Ray Forester, Safety Chairman, Woman's Auxiliary, American Medical Association.

*Mrs. Mary Lou Glossop—Dramatized Book Review

SATURDAY, MAY 15th, 1965

9:00 a.m.—REGISTRATION AND HOSPITALITY. Founders Room—Mezzanine, Mayo Hotel.

10:00 a.m. SECOND GENERAL SESSION, Emerald Room—Mayo Hotel. Mrs. J. Ferrell York, Madill, President, presiding.

CALL TO ORDER: Mrs. York.

INVOCATION: Mrs. J. Hartwell Dunn, Oklahoma City, President-Elect, Woman's Auxiliary to the Oklahoma County Medical Society.

PLEDGE OF LOYALTY: Mrs. Marshall O. Hart, Tulsa.

WELCOME: Mrs. Charles H. Eads, Tulsa, President-Elect, Woman's Auxiliary to the Tulsa County Medical Society.

RESPONSE: Mrs. F. H. McGregor, Oklahoma City.

GREETINGS: Harlan Thomas, M.D., Tulsa, President, Oklahoma State Medical Association.

INTRODUCTION OF SPECIAL GUESTS:

Guest Speaker: Mrs. Jordan Kelling, Waverly, Missouri, President, Woman's Auxiliary, Southern Medical Association.

ROLL CALL BY COUNTIES: Mrs. Harlan Thomas, Tulsa, Secretary.

REPORT OF CREDENTIALS COMMITTEE: Mrs. Robert L. Anderson, Tulsa.

REPORT OF COUNTY PRES'DENTS:

Atoka-Bryan-Coal Miss Opal Haynie
Carter-Love-Marshall ... Mrs. Ralph W. Murphy
Cleveland-McClain Mrs. F. C. Buffington
Comanche-Cotton Mrs. Melton P. Meek
Craig-Delaware-Ottawa ... Mrs. John E. Highland
Custer Mrs. James Rhymer
East-Central Mrs. James L. Green, Jr.
Garfield-Kingfisher-Major

..... Mrs. Frank L. Adelman

Grady-Caddo Mrs. L. E. Woods
Kay-Noble Mrs. Robert L. Lembke
Oklahoma Mrs. Ira O. Pollock
Okmulgee Mrs. Carlton E. Smith
Pittsburg Mrs. Samuel E. Dakil
Pontotoc-Johnston Mrs. Luther Pennington
Pottawatomie Mrs. Roy C. Kelly
Stephens Mrs. William R. Cheatwood
Tulsa Mrs. Ceylon S. Lewis
Washington-Nowata Mrs. Hillard E. Denyer

OLD BUSINESS

NEW BUSINESS

ELECTION OF DELEGATES TO NATIONAL CONVENTION

ELECTION OF OFFICERS

INSTALLATION OF OFFICERS AND COUNCILORS—Mrs. Richard A. Sutter, President-Elect, Woman's Auxiliary, American Medical Association

PRESENTATION OF PAST-PRESIDENT'S EMBLEM: Mrs. Tom C. Sparks, Past-President, Ardmore

PRESENTATION OF PAST-PRESIDENT'S PIN AND GAVEL: Mrs. J. Ferrell York

ANNOUNCEMENTS

ADJOURNMENT OF 1964-1965 SESSION

1:00 p.m.—INAUGURAL LUNCHEON—Terrace Room, First Floor, Mayo Hotel. Mrs. Richard E. Witt, Muskogee, President, presiding

6:30 p.m. SOCIAL HOUR

7:30 p.m. PRESIDENT'S INAUGURAL DINNER-DANCE, Crystal Ball Room

BUFFET DINNER

ENTERTAINMENT

BISON GLEE CLUB OF THE OKLAHOMA BAPTIST UNIVERSITY AND TWO TALENTED SOLOISTS, TED HARRIS AND NANCY MONTGOMERY

9:00 p.m. DANCING TO MUSIC BY MARJEAN FOX AND HER ORCHESTRA.

Seventeenth Annual Meeting
Oklahoma State Medical Assistants Society
Bartlesville, Oklahoma

May 21st, 22nd, 23rd, 1965

Holiday Inn

FRIDAY, MAY 21st

8:00 p.m. Poolside Party

SATURDAY, MAY 22nd

8:00 a.m. Executive Board Meeting

8:30 a.m. Reference Committee

10:00 a.m. House of Delegates
Veronica O'Brien, President, presiding

1:00 p.m. Luncheon honoring past-presidents of OSMAS

3:00 p.m. Educational Program
F. M. Duffy, M.D., Moderator
"Credit, Collection and Bankruptcy":
Mr. George Fooshee, American Collection Agency

"P. R. Pointers": Guy Fuller, M.D.
"Office Emergencies": Roger Reid, M.D.

7:00 p.m. Banquet—Guest Speaker
Rex E. Kenyon, M.D., President,
Oklahoma State Medical Association

SUNDAY, MAY 23rd

(Time for church of your choice)

10:30 a.m. Continental Breakfast
Educational Program

12:00 noon Installation Luncheon
Installing Officer, Miss Marge Slaymaker, President-Elect, American Association of Medical Assistants

GENERAL INFORMATION

All medical assistants of the state who are under the direct supervision of a member of the Oklahoma State Medical Association are invited to attend the annual convention of the Oklahoma State Medical Assistants Society.

Registration fee for members, which covers all meals listed in the program is \$15.00. For non-members, the fee is \$17.50. Room reservations may be made directly with Holiday Inn and pre-registrations should be sent to Anne Mayfield, 1936 S. Johnstone, Bartlesville, Oklahoma.

Miscellaneous Advertisements

WANTED: Young energetic general practitioner to assume practice without any financial obligation in two man clinic. Senior doctor anxious to retire. Huge general practice, surgery, obstetrics and industrial work. If interested, please contact by letter, P.O. Box 3669, Odessa, Texas. Give telephone number.

FOR SALE: New 2,000 sq. ft. clinic suitable for one or two doctors. Across street from new 25-bed hospital, central heat and air conditioning with ample off-street parking on premises. Financing arranged to suit your needs. A rapid growing community close to Tulsa on shore of Keystone Lake. Need and opportunity for a good doctor is here. Contact Bob Diehnel, EL 8-2582 or EL 8-2429, Cleveland, Oklahoma.

WANTED: Locum tenens for month of June. Contact Key S, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

EXCELENT opportunity for general practitioner to join on associate basis. City of 17,000 with excellent schools and located ten minutes from Oklahoma City or Norman. Private suite in new clinic now available. Good hospital with full privileges available. Contact Key M, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

SURGEON completing residency in July, 1965, desires Oklahoma location. O.U. graduate, military service completed. Contact W. E. Bowers, Jr., M.D., 5907 Windamore Drive, Little Rock, Arkansas.

BOARD certified surgeon desires Oklahoma location in group or partnership practice. 1955 graduate of University of Texas, Medical Branch, will complete military service in June, 1966. Contact Thomas F. Camp, Jr., M.D., 6518 Carrie Lane, San Antonio, Texas.

UROLOGIST desires association with partner or group. Colorado graduate with two years' general surgery residency, plus now completing four years' Army service in urology. Board certified. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

UNLIMITED opportunity for one or two young general practitioners in a suburban area of 40,000 with no M.D. All of the advantages of a small town practice in a large city. Available July, 1965. Contact Key D, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE: Beck-Lee Cardi-All EKG and Keleket X-ray machine, 100 MA, 100 KV. These machines are older models but in very good working order and ideal for office work. If interested contact Curry Clinic-Hospital, Sapulpa, Oklahoma, P.O. Box 581, Phone BA 4-3081.

FOR SALE: Laboratory and x-ray equipment, excellent condition. Will sacrifice to sell in 60 days. G.E. 100 MA X-ray. Medcolator ultra-sound GE EKG. Leitz Photrometer. Castle autoclave. Centrifuge. Six unit cell counter. Pipette shaker, many other items. Claude M. Hirst, M.D., Shawnee. Call BR 3-3030 or BR 3-3251.

FIRS YEAR resident in OB-GYN with two and one-half years in general practice desires locum tenens for three days to a week. Available March, April or May. Oklahoma license. Call WI 6-9118, 4300 N.W. 43, Oklahoma City.

WANTED, ambitious, well-qualified physician to locate in Seneca, Kansas. Modern hospital. Productive agricultural area. Excellent outdoor activities. Inquire, Chamber of Commerce, Seneca, Kansas.

WANTED: General practitioner to join on associate basis. City of 8,000 including state college enrollment. Progressive city with new 30-bed hospital. Contact Key F, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

HOW WOULD you like to bring along just your physician's bag and take over a well-established and growing general practice in town of 35,000 when I leave for a residency next July 13th? Office space of 1,700 square feet can be leased. Equipment can be leased or purchased. Contact Key J, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

GENERAL practice for sale. Partnership in Midwest City clinic, established 12 years. Beginning residency in July. Open staff hospital nearby. Liberal terms. Contact F. W. Weber, M.D., 417 Country Club Terrace, Midwest City, Oklahoma.

FIRST-YEAR general surgery resident desires locum tenens in Oklahoma for one or two weeks in April or May. Contact Larry L. Young, M.D., 5502 West Avalon, Phoenix, Arizona.

WANTED associate for well-established clinic in Northern Oklahoma community of 10,000. Prefer young general surgeon interested in diversified practice or young internist interested in wide practice. Salary and percentage open to negotiation. Contact Key L, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED internist and general surgeon, board eligible or certified to be associated with 12-man specialty group; salary open; no investment; early partnership; city of 35,000. Write R. S. Fillmore, M.D., King's Daughters Clinic, Temple, Texas.

The Influence of the Medical School

MEMBERS OF THE American Society of Internal Medicine and guests, it is a real pleasure to take part in a session on this important topic. I have wondered about the meaning of the title and its possible implications. I feel that it would not have been chosen were there not a sense of dissatisfaction involved, a feeling that all is not as well as it might be, and this is good. It fits in very well with the feeling that medical educators have. There's a great ferment in medical education today and everyone is wondering how it can be made still better than it is. There are many experiments being undertaken to find better methods of supplying the best internists and other physicians. These experiments are on both an undergraduate and a graduate level.

One of the very interesting things is how little we know about the process of education *per se*. Medical schools and medical centers have a tremendous responsibility in this day of rapid change and rapid advance in the sum total of knowledge in the biological and social sciences.

It's been said that if the total knowledge in the biological and social sciences were charted, beginning with the birth of Christ and carried on to the present day, there would have been a doubling in the amount of knowledge between the birth of Christ and the year 1750. There would have been a second doubling between 1750 and 1900, then another doubling between 1900 and 1950, and, amazingly enough, another doubling between 1950 and 1960. As you can see, this is a tremendously rapid rising curve of knowledge, and it presents one of our greatest problems.

The curriculum committees of medical schools have been struggling with this situation. There is pressure on all sides that they give such and such a topic more time—everybody wants more time, and you can understand this considering the amount of knowledge each department has to impart. Even within my own department at Temple, I have pressure from all of the subspecialists. "More time, please. More time."

This speech was presented at the 1964 Annual Meeting of the American Society of Internal Medicine in Atlantic City.

In thinking about this problem, our own emphasis, at least in the clinical years at Temple, has been to stress certain things both in our undergraduate and graduate training programs.

First of all, emphasis is on basic principles taught predominantly at the bedside. The real basis of clinical teaching is the reaction of the student, the teacher and the sick patient, leading to a new physician, a better teacher and an improved patient. This is the key to all clinical teaching, and it's in this very setting that the basic principles have to be stressed. There's recognition of the fact that separate courses in basic science, while fine in themselves, are not so good as standing at the bedside of the patient with the good teacher applying these principles to the problem at hand. This has a real motivating force, and, of course, brings in all the obviously necessary laboratory work that is involved.

A second emphasis in looking at the teaching problem, is that of facts which have a long half-life—to use the physicists' terminology—there are some things which are as true today as they were many years ago. There are other things which are accepted today but will be out of date in a short time. Where factual knowledge is concerned this is important, particularly in relation to the basic principles, because we must have facts on which to base the principles, as on those which have a long half-life.

A third emphasis is on attempting to create a lifelong scholar. In order to do this it is very important to have the students in residency training participate in some research and be constantly surrounded by persons who are contributing to the advance of medicine.

While these are some of the basic principles, we must emphasize the proper balance between the various phases of medical school and medical center activities. The term three-legged stool has often been used for the functions of the medical school and medical center. One leg of this stool is teaching, one is patient care and the third is re-

search. These three legs must be—or should be—balanced. Lack of research fosters stagnation and a smug satisfaction with things that are past. On the other hand, over-emphasis on research at the expense of bedside teaching leads to the development of what I like to refer to as the foot-of-the-bedder instead of a side-of-the-bedder. The latter over-emphasis has been, I am afraid, predominant in many institutions. The dollar today goes where there is research. It's exciting to be a participant where there is advance in medical knowledge, but when this draws the picture away from bedside teaching, then I think it is wrong.

Let me give you an example. While examining a candidate for the American Board in a large hospital not long ago, out of the corner of my eye I was watching rounds going on down the hall. There was a staff man, a resident, an intern and a group of students with a rolling chart file and an x-ray view box which made up the group. As they moved along, the chief looked over the charts and talked about the electrocardiograms and x-rays. The only man who went between the beds at any time was the intern, and the only reason he did so was because there was an electric outlet where he had to plug the view box. You could see those patients wishing that somebody would just put a hand on their wrist, if not to feel their pulse, at least to show an interest in them as human beings, or even ask "How do you feel?" This is the wrong emphasis. We must have some emphasis on x-rays, laboratory data, etc., but we've got to have the other too.

Part of the problem is that many times the chief is afraid that if he checks the physical examination and finds he missed some important lesion seen by x-ray, his ego can't tolerate it. We who teach have to take this risk, and we've got to develop our discussion with each patient in proper sequence, checking the important points in history and physical examination, and then, when the x-rays are shown, if we've missed, all right. We cannot expect students to think that a history and physical examination are important if we ourselves don't check them. They come to think that this is nothing more than a routine one goes through to fill pages.

I talked with a staff member of the hospital after seeing this procedure. "What do you think about this? How many of the staff of your department of medicine are foot-of-the-bedders and how many are side-of-the-bedders?" And he said, "Well it's about fifty-fifty." This is a tragic situation which needs correction. And we've seen it in the American Board of Internal Medicine exams. One of the common reasons for failure in examinations is the fact that while a person may answer very well all the questions relating to the lab data, x-rays, cardiograms and so on, he may fail utterly in simple things such as taking a good history and doing a physical examination, and proceeding from there to select those things that are likely to be of value in the total interpretation of the case.

An example of what can be true today appeared in a national publication not long ago, in which a professor at one of the medical schools in this country said that if he had his way in medical education, he would like for medical students to spend their entire four years in the animal laboratory. At the end of that period there would be plenty of time during their internship and residency to see patients. He went on to say that what people talk about as the art of medicine is something that one would expect of a shopkeeper.

Let's not have a division between the academic physician in his so-called ivory tower and the physician in so-called private practice. We're all teachers. As long as there is gradient of knowledge there should be teaching going on wherever you are.

And in this I think one of the most fundamental principles in teaching was expressed by that great educator, not a medical man but basically a mathematician, Whitehead:

"In the course of life, there's a stream or river of life. There are a various number of eddies in life, and in each there has to be proper sequence."

We have to start with what Whitehead called "Romance" or "Ferment," which are really two essential things which will cause motivation. One of these is wonder, which leads to research; the other is the hope that something learned can be of practical value in life. This leads to excitement that causes the student, whether undergraduate, intern,

resident, or younger physician, to go through a period of "precision." He mobilizes the energy necessary to get out and study some of the basic facts from the text and from the literature that relate to the problem that has excited him as he's seen it at the bedside. And then as he goes through that difficult period of precision, which requires a lot of mental effort, he will finally come back through "generalization," putting it into his total scheme of knowledge, and return to the general stream to be ready for another eddy.

Now to put precision before motivation is wrong. One of the faults in medical education everywhere, is "Well, we'll have a series of lectures on so-and-so, instead of having things based on the exciting patient." If the teacher is one who can show the excitement of being able to do a job for a patient, or if from a patient there should come some question that stimulates wonder, it may lead to a research project. In this way we can really further the development of medical education in the United States, keep our students as scholars who will be constantly looking things up, and attempting to keep up with this great flood of new knowledge that is presented to us.

I'm one of those who believe that many of the disputes that arise in life between individuals and groups of individuals are based largely on misunderstanding. And I think that when these misunderstandings have been aired and properly discussed between the individuals, the result can turn out to be a good one, perhaps better than if differences had never been raised in the first place. Having been stimulated by these misunderstandings, perhaps out of them will have come a new understanding which is good for both the disputants, and Medicine in general. □

Thomas M. Durant, M.D., Chairman of the Department of Medicine, Temple University School of Medicine, Philadelphia, Pennsylvania and President of the American College of Physicians.

Utilization of Hospital Services

TECHNIQUES to measure and control utilization of hospital services and facilities were examined by a panel of health experts at the 1965 annual meeting of the Health Insurance Council in Oakbrook, Illinois recently.

Members of the panel, one of three conducted during the meeting included: Odin W. Anderson, Ph.D., Research Director, Center for Health Administration Studies, University of Chicago; B. C. Payne, M.D., University Hospital, Ann Arbor, Michigan; and Lawrence B. Gilman, Vice-President, John Hancock Mutual Life Insurance Company. The moderator was Robert F. Froehlke, Executive Vice-President, Sentry Insurance.

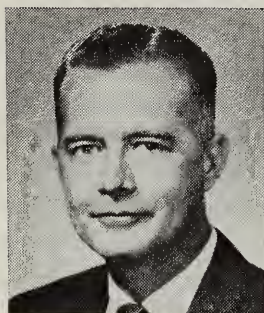
Doctor Anderson described a large scale study of hospital admissions and discharges conducted jointly by the Health Information Foundation and National Opinion Research Center in fifty general and special short-term hospitals in Massachusetts. The survey, undertaken over a twelve month period in 1960-1961 and involving a total of 2,355 cases, revealed that seven per cent of surgical admissions, 14 per cent of medical, and 15 per cent of diagnostic admissions could have been treated in a physician's office, although "not as satisfactorily" as in the hospital.

Four per cent of the surgical admissions, three per cent of the medical and eight per cent of diagnostic cases could have been handled "equally as well" in the physician's office, according to Dr. Anderson, but 74 per cent of surgical admissions, 46 per cent of medical and 45 per cent of diagnostic cases would have been "impossible" to handle on other than an inpatient basis.

Because these data indicate that "an appreciably large minority of patients did not absolutely have to be in the hospital," Doctor Anderson said that "it can be assumed that hospital use can be cut back a great deal without endangering life, and that this study can give us some idea of the areas of use that can be cut back if we simply wish to tighten the system and save money." He added, however, that the study does not measure actual needed care not being sought by the population, and "if all needs were to be fully met, hospital use would have to rise." Moreover, he said, "cutting back use and beds will not result in a savings in equal proportion to such retrenchment."

The technique for measuring effectiveness of hospital utilization could be modified to evaluate quality and appropriateness of medical care. □

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mediate Past-President, Harlan Thomas . . . truly above and beyond the call. You would be heartened by the dedication of our Executive Secretaries and our Office Staff . . . a devotion evidenced, among other things, by long overtime hours, for which they have never been compensated. You would be stimulated by the sincerity in depth of a handful of great guys . . . physicians, like yourself, who willingly give their time, their effort, their money, and their heart to the task of running our Councils and Committees . . . and for which they are rarely thanked. You would be delighted with the record of service to the State, to the community, to the just-plain-people, and to YOU, as a member!

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The roster of Committees and Councils will appear in the next *Journal*. Unfortunately, a lot of willing physicians are never appointed . . . because no one ever knew they were interested. Modesty is no virtue when it interferes with progress. If you want to serve, let me know . . . where and when. No special talent is needed. Teddy Roosevelt once said, "I am only an average man, but, by George, I work harder at it than the average man."¹

I need an army of average men who are willing to work harder than average. Doctor, I NEED YOU! How about it?

Rex Kenyon

¹From QUOTE, May 2, 1965.

Treatment of Autoimmune Hemolytic Anemia with ACTH and Cortisone

ERIC R. HURD, M.D.

Description of two patients with autoimmune hemolytic anemia and a brief review of the literature concerning pathogenesis and treatment of this disease with ACTH and adrenal steroids.

REPORT OF TWO CASES

THE FAVORABLE effects of ACTH and Cortisone on the course of acquired autoimmune hemolytic anemia were first reported in 1951.^{3, 5, 14} Since then numerous reports have appeared which attest to the value of this treatment.

Within the past year we have had two cases of autoimmune hemolytic anemia in which the results were good with steroid therapy.

CASE REPORTS

Case #1

A 39-year-old white man (an electrician) was first seen for a routine physical examination in September 1962. He had no complaints at that time and physical examination revealed a slight tachycardia and min-

imal elevation of blood pressure which later became normal on sedation. Slight skin and conjunctival pallor were noticed. A blood count September 17, 1962 revealed a hemoglobin of 10.2 grams and a hematocrit of 33 per cent. A red blood cell count was 3,230,000. The white blood cell count and differential were essentially normal. There was no history of a bleeding disorder, although he said that he was anemic as a child. During World War II he again was found to be anemic and received iron parenterally. The reticulocyte count September 29, 1962 was six per cent and the serum iron was normal. Stools for occult blood were negative.

Later he was found to have a small tumor of the abdominal wall and was hospitalized from November 1, 1962 to November 8, 1962 for its excision. The pathological diagnosis was chronic fascitis, panniculitis and vasculitis with no evidence of malignancy.

During admission on this occasion a complete blood count, urinalysis and platelet count were normal. The hemoglobin was 13.3 grams, the hematocrit 40.5 per cent. The mean corpuscular volume was 111.1 cubic microns, the mean corpuscular hemoglobin was 36.5 micromcg, the mean corpuscular hemoglobin was 32.8 per cent and the red blood cell count was 3,640,000. The sedimentation rate was normal. The serum cholesterol, alkaline phosphatase, SGOT,

Anemia / HURD

SGPT, TSP and A/G ratio were normal. The serum bilirubin was 1.4 mgm per cent with 0.2 mgm per cent direct. The cephalin flocculation and thymol turbidity were normal. The BSP was 12 per cent, the serum iron 82 mcgm per cent. An LE cell preparation was negative. Serum calcium, phosphorus, fasting blood sugar and blood urea nitrogen were normal. There was a four plus direct Coombs' test; the protein-bound iodine was 9.2 mcgm per cent. A VDRL was reactive in 16 dilutions but the Kolmer-Wasserman was negative. A reticulocyte count was 2.6 per cent and an osmotic fragility test was normal. A cold agglutination test reacted 1:32. The heterophile antibody and febrile agglutinins were negative. A Diagnex test was normal. The blood type was A. A barium enema was normal. Microscopic examination of the bone marrow revealed erythrocytic hyperplasia. On discharge the hemoglobin was 14.1 grams and the hematocrit was 44.0 per cent. The discharge diagnosis was idiopathic acquired hemolytic anemia.

Following discharge the patient did well until July 1963 when he developed an infection of the right maxillary sinus with edema and pain in the right cheek and right eye. Late in August he developed a yellow color to the skin and sclerae with increasing weakness, easy fatigue and shortness of breath. He had taken Benadryl, Excedrin and Dristan of his own volition for what he considered sinus trouble. He had been exposed to model airplane glue and fuel in his hobby work but had not used any during the past few months. He had also used Epoxy resins in his work. He gave an interesting history of "sun allergy" characterized by itching after exposure to the sun. He stated that "scabbed areas" developed in those portions of the skin which were exposed to the sun. The condition had been treated by a dermatologist.

He was hospitalized again September 11, 1963 for further study because of his anemia. On physical examination the blood pressure was 140/80 and the temperature 99.4° F. He was well nourished and well developed but there was a pronounced pallor and moderate generalized jaundice with icteric sclerae. White, scaly lesions were present on

the right upper arm. No lymphadenopathy was present.

The lungs were clear to percussion and auscultation. Auscultation of the heart revealed a grade III/VI systolic murmur along the left sternal border and over the pulmonic area which was louder on expiration. The abdomen was soft. The liver and kidneys were not palpable but the edge of the spleen was palpable 4.5 cm below the costal margin. It was firm, non-tender and moved with respiration. Its edge was smooth.

A complete blood count was as follows: hemoglobin 4.7 grams, hematocrit 18 per cent, red blood cell count 1,700,000, white blood cell count 10,400 with eight bands, 70 segmented cells, one eosinophil, two monocytes and 19 lymphocytes. The sedimentation rate was 12 mm in one hour. A urinalysis was normal. The VDRL was reactive in 16 dilutions, the Kolmer-Wasserman was four plus, the FTA and Reiter protein antigen test were negative. The total serum bilirubin was 5.0 mgm per cent, direct 1.0 mgm per cent. A direct Coombs' test was four plus. The reticulocyte count was 68 per cent and the platelet count was 144,000 per cu. mm. The blood urea nitrogen and blood sugar were normal. Urine tests for bilirubin, hemosiderin, hemoglobin, porphobilinogen and uroporphyrins were negative. The urine was strongly positive for coproporphyrins. Fecal urobilinogen was 1,580 Ehrlich units per 100 grams of feces. Donath-Lansteiner and Ham's acid serum tests were negative. The cold agglutination titer was 1:64. No warm agglutinins were detected. The blood volume was normal but the red cell volume was decreased. The LDH was 1,175 units, SGOT 20 units and SGPT six units. The hemoglobin electrophoresis showed hemoglobin A. The blood type was A. A radioactive chromium 51 test revealed some hemolysis. The Rh factor test was not reliable because the albumin control was agglutinated by the patient's cells. The patient's serum agglutinated his cells on exposure to cold but after washing with warm saline and

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heating this did not occur. An incubated osmotic fragility test showed increased hemolysis. A bone marrow examination showed a hyperplastic marrow principally due to an erythroid hyperplasia with normoblasts in the peripheral blood. Some spherocytes were present.

An electrocardiogram was normal. A roentgenogram of the chest was normal. An abdominal film showed moderate splenomegaly. A gallbladder series was normal. An upper gastrointestinal series showed no evidence of a stomach lesion; there was hypomotility of the small bowel. A roentgenogram of the paranasal sinuses was essentially normal.

A diagnosis of idiopathic acquired hemolytic anemia was made and Prednisone 80 mg. daily was begun September 20, 1963. His jaundice disappeared and he improved rapidly. On discharge October 4, 1963 his hemoglobin was 11.7 grams and the hematocrit was 38 per cent. The reticulocyte count had dropped to five per cent. The total serum bilirubin was 0.9 mgm. per cent, direct 0.3 mgm. per cent. The LDH was 330 units. The tip of the spleen was barely palpable. He had received *no* blood transfusions.

He was followed as an outpatient and continued to do well on a steroid dosage of 7.5 mgm. to ten mgm. per day. On March 2, 1964 he developed pain, swelling and limitation of motion in both knees; two days later similar symptoms appeared in his hands and wrists. On March 7, 1964 a reticulocyte count was two per cent. On March 12, 1964 the hemoglobin was 13.2, the hematocrit 41 per cent and the sedimentation rate 16 mm. in one hour. Examination revealed fusiform swelling of the phalanges.

He spiked a temperature of 104° F. associated with chest pain on March 15, 1964. Examination revealed a pericardial friction rub and the electrocardiographic changes were compatible with an acute pericarditis. He was hospitalized shortly afterwards and the following laboratory data were obtained: hemoglobin 12.3 grams, hematocrit 39 per cent, direct Coombs' four plus, VDRL positive in eight dilutions, Wasserman four plus, cold agglutinins 1:4, total bilirubin 1.7 mgm. per cent, direct 0.5 mgm per cent. The LE cell preparation was *positive*. During this hospitalization the laboratory observed that

this gentleman's blood was more difficult to type and crossmatch than it had been on previous occasions. He improved during this hospital stay and upon discharge he was maintained on Prednisone 30 mgm. daily. It is now believed that he had lupus erythematosus with a superimposed hemolytic anemia.

Case #2

A 66-year-old white woman was first admitted to St. John's hospital in 1959 for treatment of an acute pyelonephritis. In 1960 she was admitted again because of a squamous cell carcinoma of the right leg. After the lesion was excised it was covered with skin grafts and the area healed promptly. During this hospitalization no abnormalities were found on pelvic examination.

In September 1962 a mass in the left adnexal region was found on routine pelvic examination which appeared to be cystic. Her hemoglobin was 10.2 grams however, so hospitalization for definitive treatment was deferred and she continued under observation in the outpatient clinic. Her condition did not change so in April 1963 further laboratory studies were done including serum iron, red blood cell fragility, LE cell preparation, Coombs' test (direct and indirect). All these studies were within normal limits. On one occasion the total serum bilirubin was 1.5 mgm. per cent. Further laboratory studies were done in October 1963 which showed the following: hemoglobin 8.8 grams, hematocrit 28 per cent, red blood cell count 2,580,000, reticulocyte count 9.2 per cent. Examination of the bone marrow showed erythrocytic hyperplasia and normochromic anemia with decreased iron stores. The laboratory observed that it was impossible to type or crossmatch this lady's blood. Shortly afterwards her hemoglobin began to fall while the reticulocyte count and serum bilirubin, both total and indirect, increased. The direct Coombs' test became four plus.

When she was admitted to the hospital October 22, 1963 she complained of shortness of breath with the slightest exertion and weakness. On physical examination there was a faint, generalized icterus. Auscultation of the heart revealed a grade I systolic murmur which was heard best in the second intercostal space along the right sternal border. The abdomen was obese and the spleen

could not be palpated. On pelvic examination the adnexal mass was essentially unchanged from the findings recorded one year earlier. The remainder of the physical examination was within normal limits. The hemoglobin was 6.8 grams, the hematocrit 21 per cent and the red blood count 1,990,000. The total serum bilirubin was 2.3 mgm. per cent with 0.5 mgm. per cent direct. A reticulocyte count was 31.6 per cent. Microscopic examination of the bone marrow showed a pronounced erythroid hyperplasia with active regeneration and depleted iron stores. Some cold and warm agglutinins were found.

A diagnosis of idiopathic acquired hemolytic anemia was made and she was given 40 units ACTH followed by Prednisone, 40 mgm. daily. At the time of her discharge November 4, 1963 the hemoglobin had risen to 10.4 grams; the hematocrit was 30 per cent and the reticulocyte count and serum bilirubin were decreasing. During her subsequent observation as an outpatient the Prednisone has been decreased gradually to the present maintenance level of five mgm. daily although on one occasion it had to be increased to 60 mgm. daily. She says that she feels better than she has in many years. At the time of her last examination the hemoglobin was 12.1 grams and the hematocrit was 36 per cent. The laboratory is able to type and crossmatch her blood; it is 0 positive. The Coombs' is only one plus. Her serum electrophoretic pattern has never been abnormal. At one time, while receiving doses of steroids, she had bodily changes associated with Cushing's syndrome but these have subsided as the steroid dosage has been diminished.

RESULTS OF THERAPY

In both of the cases reported here there was a striking response to steroid therapy. Dameshek, Rosenthol and Schwartz have stated that a favorable response can be expected immediately in 90 per cent of those cases where ACTH and Cortisone are used. Complete clinical remission occurs in about 65 per cent of the cases while 25 per cent show definite response but the effect is not

permanent. When maintenance therapy is discontinued over 70 per cent of these patients relapse.¹¹ Complete failure occurs in less than ten per cent of the cases and this is usually due to a severe underlying disease such as lymphomas, leukemia, gastric carcinoma, etc.

In most cases 40 to 50 mgm. Prednisone or 100 to 400 mgm. Cortisone are usually adequate for control but Dacie, *et al.*, believe that ACTH also should be used for initiation of therapy especially in desperately ill people where oral steroids may be ineffective or impractical. The dosage of ACTH may be as high as 100 units daily.

Hematologic improvement usually begins within three to seven days after treatment is begun. Later the hemoglobin may rise two to three grams weekly with a corresponding fall in the reticulocyte count (except for an early, transient increase).⁸ In both the patients reported here there was a significant clinical and hematologic improvement within 36 to 48 hours after treatment was begun. The Coombs' test often remains positive after other studies have become normal but this is usually considered merely a landmark of previous disease and so is of doubtful pathologic significance.³

Dameshek and Komninos⁴ recommend the following program of steroid treatment which features four distinct phases: 1) initial treatment with high doses of steroids until a remission has been obtained, 2) withdrawal of treatment to assess the permanence of initial results, 3) resumption of therapy if relapse occurs followed by stabilization at a low dosage maintenance level and 4) a final decision on whether steroid therapy will be adequate for control or whether splenectomy is indicated. Usually six to 18 months is allowed for this regimen but even if splenectomy is done a relapse rate of 50 per cent is common.

In the patients reported here we have not discontinued the steroids entirely. Low doses of Prednisone have been continued because of the excellent clinical and serological responses and the absence of apparent complications.

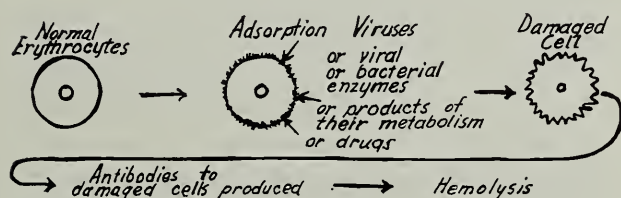
MODE OF ACTION OF ACTH AND STEROIDS

It is believed that autoimmune hemolytic anemia is produced by the coating of ery-

throcytes with an antibody of unknown nature which makes the cells more susceptible to erythrophagocytosis by the reticuloendothelial system.

Dacie² expands this theory into two main hypotheses: 1) alteration in the patient's erythrocytes which has the effect of making them seem "foreign" or "not-self" to his own antibody-forming tissues and thus antigenic and 2) the development of anti-erythrocyte antibodies which are not the result of a fault or change in the erythrocytes themselves but due to an unusual responsiveness or intrinsic activity of the antibody-forming tissues.

The first idea may be illustrated as follows:



Recently there has been much greater acceptance of the second hypothesis, particularly that of somatic mutation, leading to the development of forbidden clones of antibody-forming cells, as described by Burnet.¹ However this theory leaves much to be desired and does not adequately explain all situations, for example the presence and action of cold and warm agglutinins. Dacie feels that since both cold and warm agglutinins are present in slight amounts in normal sera it may therefore be not so much a question of a clone of cells appearing and then reacting against normal erythrocytes as the abnormal predominance of an antibody activity already in action. He believes the explanation could lie in the breakdown of a so-called "homeostatic restraining mechanism."

Following the above brief resumé concerning the development of autoimmune hemolytic anemias it can be theorized that the hormones (ACTH and steroids) probably act (a) by diminishing the rate of antibody formation and, possibly, (b) by interfering with the interaction between antibody and antigen or by restraining the processes such as erythrophagocytosis which brings about disposal of the antibody-damaged erythrocytes. A third possibility is that the steroids seen to have a direct effect on the bone mar-

row or reticulocytes by either marrow stimulation, premature release of the reticulocytes from the marrow or a delay in maturation of the reticulocytes (Balkie and Pirrie (1958) Scot. Med J. 3, 264 Dacie—page 664.)

A very interesting factor present in both of our patients was that the blood bank had much difficulty in typing and crossmatching their blood. While this difficulty cleared after steroid therapy in the second patient it continued in the first patient and in fact was worse during the last admission.

Hinz and Boyer⁴ recently have described a patient with autoimmune acquired hemolytic anemia in which the patient's serum contained an unusual autoantibody with blood-group specificity, which was shown to be associated with the macroglobulin fraction of serum. The antibody was of N specificity and was active against the patient's group M erythrocytes. This was believed possible only by virtue of the general ability of anti-N to cross-react with M cells. After Prednisone therapy, the anti-N titer was not detectable. As mentioned above however, in neither of our cases was any blood group specificity noted.

DISCUSSION

In the two cases of idiopathic autoimmune hemolytic anemia presented we had a spectacular result from the use of ACTH and corticosteroids. One of these has now become apparent as a case of collagen disease, probably lupus erythematosus. Case #1 had a low titer of cold agglutinins while Case #2 had low titers of both cold and warm agglutinins, but predominantly the cold agglutinins. Approximately 90 per cent of these patients with autoimmune hemolytic anemia are of the warm agglutinin type while the other ten per cent are of the cold type. These cases of hemolytic anemia due to cold agglutinins usually occur in older patients and it is usually in this group that more difficulty is encountered with blood typing and crossmatching. The best results with steroids usually occur in patients with warm agglutinins, with less benefit obtained when cold agglutinins are present. Therefore, both our patients' responses were somewhat exceptions to the rule although the titers of the cold agglutinins were low in both cases and as Wallerstine and Aggeler point out, a titer

of 1:10,000 or above is usually found in cases of hemolytic anemia due to cold agglutinins. It is interesting that approximately 50 per cent of normal people have low titers of cold agglutinins usually at 0.5°C. These are harmless ordinarily. Warm autoantibodies also may be demonstrated in normal sera.

In both of our patients, the dosage of Prednisone was continued at a very low maintenance level: in Case #1 at 7.5 mgm, daily and in Case #2 at 5 mgm daily although after signs of lupus erythematosus developed in Case #1, 20 mgm maintenance has been necessary. Both of them continued in remission until the one developed signs of a collagen disease. The other patient is still in clinical and hematologic remission and feels extremely well. It remains to be seen whether she also will ultimately prove to have a severe underlying disease such as lupus erythematosus, chronic lymphocytic leukemia or lymphosarcoma. Her lupus erythematosus cell preparation at this time is still negative. She may fall into the 50 per cent group of patients in whom no definite cause is ever determined.

Splenectomy in these patients usually is not necessary. There are only a few indications for splenectomy in these patients: 1) Failure of the steroids to provide a prompt or sustained remission 2) If severe side effects secondary to steroid therapy occur, and

3) It has sometimes been stated that a lower maintenance dosage of steroids may be required if a splenectomy has been performed, a very questionable indication.

Although there are many unknowns connected with the diagnosis and treatment of autoimmune hemolytic anemia, one fact is definite—when a good result is obtained with steroids it is almost miraculous and certainly very impressive. □

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St. John's Hospital, Tulsa, Oklahoma

DRUG INDUSTRY DRAWS MOST SCIENTISTS

A study has shown there are over 45 scientists per 10,000 employees in the drug industry, highest ratio in any industry. In the chemical industry, there are 13 scientists per 10,000 employees; six in the petroleum industry, and four in the electrical industry.

Traumatic Conditions of the Heel Cord

WILLIAM A. MILLER, M.D.

This paper presents three cases of heel cord injury requiring surgery, with several problems of diagnosis and treatment. Conditions amenable to non-operative treatment are also discussed.

DESPITE the large size of the heel cord, diagnosis of damage to it and prognostications as to its exact status during recovery after repair are difficult at times. The exact pathology in some cases is rather ill defined but treatment is usually gratifying.

The most common traumatic condition of the heel cord is probably best described as a simple strain. It is usually caused by prolonged use of tennis shoes or a similar type of shoe without sufficient heel. The most common age group for this is eight to 12 although it is not uncommon in children younger than this and can occur in adults. The patient usually points to the lower two inches of the heel cord and around the sides of the os calcis as the area of pain. Roentgenograms in the typical age group show a sclerotic appearance of the apophysis of the os calcis, usually with fragmentation, which is not abnormal. This was formerly called aseptic necrosis of the apophysis (Sever's disease) un-

til it was realized that the normal apophysis always has this appearance. Roentgenograms should be taken always, however, because there may be some pathology in the os calcis. In one personal case, a large bone cyst of the os calcis was found. Practically all of these cases respond readily to using an oxford shoe with a normal height heel and leaving off the tennis shoes. Some require one-fourth inch extra heel elevation. An occasional case requires two or three weeks in a walking cast to rest the tendon. At times injection of Hydrocortone® mixed with Xylocaine® around the tendon insertion is necessary for complete relief, although in these cases the psychological effect of the injection may be of more benefit than the medication. Injection can be used as primary treatment, but it is usually unnecessary. After symptoms have been absent for a month the individuals can use tennis shoes or athletic shoes only when engaging in sports, usually without recurrence of symptoms. If a doctor wishes to refer to this condition as Sever's disease, I can see no objection, unless he considers the sclerotic or fragmented appearance of the apophysis as pathological and bases the diagnosis on it. The above treatment of heel elevation was recommended by Sever in his original article.

Traumatic tendinitis is less common. It usually occurs in adults after unusual activity such as prolonged walking by a sedentary individual. There is pain over the lower

three or four inches of the heel cord. Often crepitation is present. Many times rest brings relief in two or three days. Hydrocortone injections and ultra-sound treatments also may be used for this condition. In severe cases, a walking cast is necessary for a week or two to rest the tendon.

Rupture of the plantaris tendon is an uncommon condition caused by a relatively minor strain of the ankle. The plantaris tendon is the longest tendon in the body in relation to its thickness. It is attached to the medial side of the heel cord or runs along with it. Surprisingly enough, considerable hemorrhage can result from this rupture, giving pronounced ecchymosis and swelling of the posterior surface of the leg. In these cases there may be a rupture of some of the muscle fibers of the gastrocnemius or soleus. Continuity of the heel cord is intact however, and actual tenderness is usually minimal though it may be quite painful. If the patient has avoided hot packs, swelling may not be great. If seen early, elevation with cold packs minimizes symptoms and reassurance renders further treatment unnecessary. An occasional patient requires a walking cast for relief of pain. Swelling may be quite troublesome in an occasional patient, but persistent pain is very unusual.

Lacerations of the heel cord are rather common. Many times injury through a very small wound, smaller in fact than the diameter of the heel cord, can divide the tendon completely. Naturally, the location of the wound makes one suspicious of a tendon injury. Even if the heel cord appears intact the wound should be explored. If the tendon is found partially divided, a few reinforcing sutures are indicated followed by cast immobilization as described below. Although the gastrocnemius and soleus are the strongest plantar-flexors of the ankle, testing for tendon function simply by having the patient plantar-flex the ankle against resistance is very deceptive, because the auxiliary plantar-flexors may be quite strong, even in a non-athletic person. Careful palpation of the heel cord during the test usually avoids this deception. When the heel cord is divided completely the individual usually cannot stand on tip-toe.

The heel cord is occasionally ruptured. This usually occurs during violent exertion. When a leg of this type is opened, one is amazed at the massive distortion of the tendon fibers which gives the impression of the end of a whisk broom. In this type of case the usual smooth tendon repair cannot be used and various bundles of fibers must be looped together with sutures and tied to bundles of fibers from the other end, blending the fibers together. A long leg cast with the ankle plantar flexed 15° to 20° and the knee flexed at a right angle is necessary for two to four weeks, followed by a boot cast with the ankle in the same position for an additional four weeks longer. The long leg cast with the flexed knee is necessary to relax the gastrocnemius component of the heel cord to give sufficient slack to keep strain off the sutures. This type of immobilization is also necessary after repair of a simple laceration of the tendon.

Repair of the usual laceration of the heel cord is accomplished best with a double figure of eight suture as the main stay suture, with about six supplementary sutures around the edges of the tendon. I prefer to use #2 silk for the main sutures and #2 chromic catgut for the supplementary sutures. In a secondary repair or in a strong athletic individual, it is preferable to use silk for all the sutures with only a few supplementary smaller catgut sutures. In the ruptured heel cord repair, I believe it is preferable to use heavy catgut throughout rather than so much heavy silk, although one or two heavy silk sutures may be a little stronger.

A less common condition is spontaneous rupture of the heel cord from simple every day activity without a major traumatic episode. In a case of this type, pre-existing degenerative change is probably present. If the tendon is torn away from the os calcis it can be attached to the bone simply by sutures placed through drill holes. A degenerated tendon end should be cut back to fresh tendon if possible.

ILLUSTRATIVE CASE REPORTS

Case Number 1. Traumatic Rupture of Heel Cord.

A 30-year-old white male basketball coach injured his right leg and ankle January 4,

1960, while demonstrating a drive for the basket to his high school class. His family doctor tentatively diagnosed a sprained ankle and treated him with hot packs and ultrasound. When he failed to show improvement five days after his injury it was decided that further medical advice should be obtained. Examination revealed diffuse swelling of the right leg from mid-calf to the foot with discoloration extending almost to the knee. He was able to plantar-flex his ankle against slight resistance offered by the examiner's forearm but he was unable to stand on tip-toe. Roentgenograms were within normal limits. After examination he was asked if he knew what was wrong and he stated calmly that his heel cord was gone. This emphasizes again that even in orthopedics it is worthwhile to heed a patient's story. A diagnosis of rupture of the heel cord was made and surgery was done the following day. The heel cord was found completely divided about eight cm. above its insertion and its ends were ragged. It was repaired with multiple sutures of #2 chromic catgut. The subcutaneous fascia was carefully closed over the repair to minimize adhesions. Two weeks after the repair, the above-the-knee portion of the splints was removed and a simple boot cast was applied. The boot cast was removed three weeks later. He had one small sinus, apparently from a suture, that persisted until two weeks after his cast was removed. This was probed to a depth of two cm. and a heavy catgut suture was removed along with a few fibers of the tendon. Slight drainage persisted for a month after removal of the deep suture. He was last examined five and one-half months after surgery. At that time there had been no drainage for six weeks and he had full motion and strength in the ankle. He was able to walk on tip-toe easily.

Case Number 2. Spontaneous Rupture of the Heel Cord.

A 54-year-old white lady was first seen December 19, 1960, because of intermittent pain in the posterior aspect of the left heel for three years. There was no history of injury. Her pain had become worse recently and she had received ultra-sound treatment and Hydrocortone injections. On examination there was tenderness over the posterior aspect of the left heel for four cm. up the heel cord with a bony prominence beneath

the tender area. This appeared to be a spur. Roentgenograms showed a small spur on the posterior aspect of the os calcis along with a small rarefied area in the os calcis. Removal of the spur and the osteoporotic section around it were recommended. She could not decide about surgery at the time so she was given another Hydrocortone injection. The next month she elected to proceed with the proposed surgery. She was admitted to the hospital January 16, 1961. She informed us then that she had missed a step on December 29, 1960, jerking the ankle slightly but not falling. There was little pain but she observed weakness in the ankle afterwards. Examination after admission revealed an apparently ruptured heel cord which had retracted upward over five cm. leaving a palpable defect. At surgery the heel cord was ruptured from its insertion at the os calcis and elevated more than five cm. Some of the spur fragments were embedded in it and they were excised. The end of the heel cord, which was slightly degenerated, was freshened. It was impossible to get the heel cord pulled back to its original insertion even with flexion of the knee and plantar flexion of the ankle. The posterior-superior aspect of the os calcis was then freshened and the tendon was attached to this area with heavy silk sutures pulled through drill holes and tied over an intervening block of bone. Even with almost complete flexion of the ankle and flexion of the knee to 90°, there was still tension on the repair. One month after surgery the foot part of the cast was removed to about 20 cm. above the ankle and the ankle was brought out of extreme plantar flexion. The cast was removed six weeks later and she began gentle exercise. Her rehabilitation was slow but three years after the surgery (during treatment for another condition)

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Heel Cord / MILLER

she stated she was getting along fine with her heel. The right calf measured 36 cm. and the left calf, the side of injury, measured 34 cm. in circumference. There was full motion of the left ankle, compared with the right ankle, and normal strength was present.

Case Number 3. Laceration of the Heel Cord.

A 29-year-old white lady was first seen May 4, 1963. An hour earlier a glass bottle had fallen behind her striking her right heel. On examination there was a laceration four cm. long over the right heel cord with a palpable defect in the heel cord and inability to plantar flex her ankle. Repair was done under general anesthesia using two heavy black silk sutures with several smaller chromic catgut sutures for supplementary repair. After the usual closure a long leg cast was applied with the ankle slightly plantar flexed and the knee flexed to 90°. Some drainage from the wound began ten days after surgery. About 30 cc. of apparently infected hematoma was evacuated. There was no growth on culture of this material but it was considered wiser to treat her with chloramphenicol. The wound healed three weeks after surgery without further drainage. The cast was shortened below the knee five weeks after surgery and the heel cord appeared intact. The boot cast was removed six weeks later and she began exercises. Three weeks later some thickening above and below the repair appeared with a small depression in the area of repair. It was felt that the heel cord might have pulled apart but in view of her postoperative drainage it was considered better to delay exploration. There was also a possibility that this might be a tissue reaction because she had rather strong plantar flexion of the ankle. In retrospect, she probably was using her auxiliary flexors although the heel cord seemed to tighten on attempts to plantar flex the ankle, probably because of the ad-

herent scarring. Four and one-half months after the injury the wound was opened again. The tendon had separated at the site of the original laceration with the ends 3.5 cm. apart. There was considerable scar tissue between the ends which was excised as completely as possible. Even where the tendon ends were found, however, there was some infiltration of scar. The tendon was repaired with multiple sutures of #2 silk suture, putting in enough that they might have to be removed later, but trying to do everything possible to prevent a second separation. A sanguinopurulent drainage recurred and again she was treated with chloramphenicol. Culture of the drainage on this occasion produced *Staphylococcus epidermidis* sensitive to chloramphenicol, streptomycin, novobiocin, erythromycin and penicillin. Slight drainage persisted for almost six weeks. Eight weeks after the secondary repair, the cast was shortened to below the knee, and ten weeks after the repair the boot cast was removed. Her subsequent course was satisfactory. She was last examined five months after the secondary repair. At that time she still had some edema and slight restriction of ankle movement. She could walk on tip-toe without difficulty. The right calf measured 30.5 cm. in circumference and the left calf 33 cm. in circumference. A recent letter from this lady stated that the only way she can tell she cut her heel cord is that she has a scar.

SUMMARY

This paper presents three cases of heel cord injury requiring surgery with several problems of diagnosis and treatment. Conditions amenable to non-operative treatment are also discussed. □

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Acute Cholecystitis-- Early or Delayed Operation

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Despite the tendency to make decisions that patients with acute cholecystitis all be operated upon early or late, there are criteria for selecting patients for either mode of management.

IT HAS BEEN said that there is more than one way to skin a cat. In medicine also it appears that there is more than one way to achieve a particular result in the care of patients. However, in contradistinction to the nine lives of a cat, our patients have only one life and therefore a certain amount of judgment is necessary to determine which of several treatments will lead to the best result with the least mortality and morbidity.

In the instance of the management of acute cholecystitis, there are surgeons who feel that operative treatment should be carried out early in the natural course of the disease,¹ and there are other surgeons who feel that it is safest to delay operation for this condition.² It is natural that there should be a dichotomy of opinion in this area of surgical treatment of acute cholecystitis, because the etiology is not thoroughly understood and it is realized that patients react differently to the same disease process. Fortunately, in our concept of evaluation of patients it is possible to develop alternatives of treatment, based on the relative merits and risks of each method of treatment. To make logical decisions, the surgeon must understand the

natural, untreated course of the disease and must also be cognizant of the results of the various alternatives. Furthermore, the surgeon should appreciate that the environment of the operation must be one in which common bile duct injury is least likely to occur.

DIAGNOSIS AND PATHOLOGY OF ACUTE CHOLECYSTITIS

For the purposes of this discussion, acute cholecystitis is identified as the first attack or the first severe attack of right upper quadrant pain in the patient with a history of fatty food intolerance. For this diagnosis there should also be right upper quadrant tenderness, fever and leucocytosis. Radiologic confirmation of the diagnosis is desirable by having either a previous cholecystogram showing non-visualization of the gallbladder or, at the time of the attack, the presence of radio-opaque stones on a flat plate of the abdomen or a diffuse opacity in the right upper quadrant.

Acute cholecystitis usually begins with impaction of a stone in the cystic duct. In three-fourths of the patients, the impaction and obstruction will relent. In one-fourth of the patients, this impaction with its attendant gallbladder obstruction, will be continuous and progressive.³ Edema of the gallbladder wall ensues and, if the obstruction persists, the edema becomes vascular in 48 to 72 hours. In those instances of continuing obstruction, hydrops of the gallbladder develops with the accumulation of mucus or "white bile" which, with secondary bacterial invasion, becomes empyema of the gallbladder. With continuation of the process vas-

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cular impairment of the gallbladder wall ensues, due to ischemia and necrosis. During this time, adhesions to the gallbladder from surrounding peritoneal surfaces begin to form. A pericholecystic abscess may follow, with formation of a fistula through the abdominal wall or into the intestinal tract. In addition to these sequelae of continuing obstruction, jaundice can ensue because of edema surrounding the cystic duct impaction at the level of the common hepatic duct or, if the stone progresses through the cystic duct into the terminal end of the common bile duct, jaundice will also ensue with attending hepatic obstruction and/or acute pancreatitis due to attendant pancreatic duct obstruction.

ANALYSIS OF THE ALTERNATIVES

The alternative methods of treatment for acute cholecystitis should be based on the relative merits and the relative risks of early or delayed operation.

The *arguments for early operation* (not emergency operation but operation within the first 48 to 72 hours of the development of symptoms) are as follows:

1. Since the pathogenesis of the disease usually begins with impaction of the stone at the cystic duct resulting in a mechanical obstruction, relief of this obstruction, mechanically, is logical.

2. The early edema attending acute cholecystitis may facilitate the technical aspect of the operation.

3. Delay after 48 hours rarely adds to the safety of the procedure.

4. Early operation will prevent the complications following continuing obstruction of the cystic duct.

The *risks of early operation* are as follows:

1. There is a possibility of missing the correct diagnosis. Symptoms may be due to acute hepatitis or acute hemorrhagic pancreatitis or to an acute duodenal ulcer—all of which might be better handled non-operatively.

2. The presence of occult, co-existing conditions such as degenerative disease in elderly people, other metabolic or infectious diseases, may be overlooked when early operation is done.

3. Early operations are sometimes performed as emergency procedures in less than ideal conditions.

4. The vascularity of the edema may increase the chance of injury to the common bile duct.

The *arguments for delayed operation* are as follows:

1. Free perforation of the gallbladder into the peritoneal cavity is rare.

2. Delay of operation offers time to confirm the diagnosis.

3. Delay of operation offers time to detect and improve occult co-existing conditions.

4. Delay of operation offers time to prepare the patient for an optimum physical state for operation.

The *risks of delayed operation* are as follows:

1. If the disease is progressive, as it is in approximately one out of four patients, the risk increases with delay.

2. Delay of operation increases the hospital time.

3. Delay of operation may lead to indefinite procrastination on the part of the patient and thus subject him to the possibility of subsequent attacks.

4. Delay of operation may lead to possible biliary or pancreatic duct obstruction.

Analysis of the reported results of either early or delayed operation in the management of acute cholecystitis does not help one sufficiently to decide on these alternatives.³ For instance, the morbidity with either of these methods of management is reported to be around 15 per cent in either case. The mortality is reported to be between zero and 1.5 per cent in either instance.

TIMING OF OPERATION IN ACUTE CHOLECYSTITIS

The timing of operative treatment for acute cholecystitis can be based on a number

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of factors which should lead to selection of patients for either course of treatment. The timing is based on (1) the certainty of the diagnosis; (2) a determination of the severity or the progressive nature of the attack; (3) the presence or absence of associated conditions in the patient.

With these factors in mind, one can exercise judgment and establish clinical indications for either early or late operation.

The *indications for early operation* are as follows:

1. A known diagnosis in a less than elderly patient. In this category are those patients with a good clinical history of acute cholecystitis and confirmation by x-ray.

2. A known diagnosis with a progressive course in an individual of any age. Such patients with confirmed radiologic diagnosis in whom the disease is obviously progressive will deteriorate if operation is delayed.

3. A presumptive diagnosis of acute cholecystitis with beginning clinical jaundice or a rising serum amylase value. Such patients, although the diagnosis is not confirmed by radiologic techniques, probably have a stone at the distal end of the common bile duct producing early acute pancreatitis and hepatic obstruction and should be operated on before such complications progress.

The *indications for delayed operation* are as follows:

1. A known diagnosis of acute cholecystitis in the elderly patient. These patients have confirmatory radiologic evidence of acute cholecystitis but their age suggests that occult co-existing conditions may also be present. Delayed operation will allow the detection of these conditions.

2. A known diagnosis with a history of previous attacks of both acute and chronic cholecystitis. Those patients known to have acute cholecystitis have demonstrated their ability to overcome these attacks. Operation should be scheduled electively after subsidence of the present attack.

3. A presumptive diagnosis of acute cholecystitis without progression of the clinical picture. Since the diagnosis is not confirmed radiologically in these patients and since the disease does not seem to be progressing, more time can be used to confirm the diagnosis and prepare the patient for safer operation electively.

MANAGEMENT OF ACUTE CHOLECYSTITIS

In patients who have the typical clinical picture described above, a decision is to be made as to early or delayed operation, based on close observation of the patient. The observation of the pulse and temperature and specifically the serum bilirubin and serum amylase levels is important. Hydration with replacement of electrolyte losses also must be instituted immediately. The institution of nasogastric suction eliminates the stimulus of gallbladder contraction by removing the gastric contents and preventing their entrance into the duodenum. Many patients will have relief of their symptoms with this maneuver itself. If early operation is decided upon after careful evaluation of the patient, the surgeon must keep in mind that a cholecystostomy is a life-saving procedure, and should be done in those patients in whom technical difficulties are present which may lead to common bile duct injury during operation. A cholecystostomy with drainage of the gallbladder will relieve the progressive nature of the disease by eliminating the pressure attending a mechanical obstruction of the cystic duct.

CONCLUSION

It is possible to exercise judgment in the management of acute cholecystitis and select those patients who are best treated by early operation as well as those patients who will be best treated by delaying the operation. This timing depends on four factors: (1) The certainty of the diagnosis; (2) the presence or absence of co-existing conditions very often present in the elderly; (3) the determination of the progressive nature of the disease; (4) the establishment of an environment which is least conducive to injury of the common bile duct during operative treatment. □

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Oxygen's Therapeutic Value in Malignancies

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High pressure oxygen administration may be helpful in the treatment of malignancies either alone or in conjunction with other forms of therapy by inhibiting cellular growth through high concentrations at the tumor level.

HIGH PRESSURE OXYGEN administration may be helpful in the treatment of malignancies either alone or in conjunction with other forms of therapy by inhibiting cellular growth through high concentrations at the tumor level.

The one thing common to all tumors, regardless of their origin or site of growth, is the abnormal proliferation of the tumor cell. Thus, the question of why the tumor cell multiplies faster than its adjacent "normal" tissue cell has been a mystery since malignancies were first studied. Research has been carried into many areas, however, and the biochemical approach to tumor metabolism represents the most promising approach to the understanding of the neoplastic process; the high glycolytic rate of tumors is the most striking biochemical feature uncovered to date.

The need for energy springs from the fact

that living matter is a thermodynamically unstable system which cannot be maintained unless energy is added continually.

Energy is obtained by the degradation of foodstuffs. In higher organisms the overall effect of this degradation is essentially an oxidation of organic substances to carbon dioxide and water. This overall effect is the sum of many hundreds of separate chemical reactions many of which are now known in considerable detail.

Energy also can be obtained in the absence of air, i.e. anaerobically, by certain special degradation reactions of glucose and other hexoses. These are usually referred to as "fermentations" or "glycolysis". The only form of fermentation which occurs in animal tissues is the lactic acid fermentation, by which one molecule of glucose is split into two molecules of lactic acid:



In most tissues of higher organism, lactic acid fermentation is low in the presence of oxygen, but may be high in the absence of oxygen.

The suppression of fermentation by oxygen, first observed by Pasteur in yeast cells, is known as the "Pasteur Effect."

As a result of this observation, Otto Warburg, as early as 1923³⁵, enunciated a theory of cancer which, briefly summarized, proposed that cancer originates when a non-neoplastic cell adopts an anaerobic metabolism as a means of survival after injury

to its respiratory system. He describes the metabolism of the cell as being related to two metabolic processes, respiration and anaerobic fermentation: "respiration," which may be measured by the oxygen consumption of cells that are saturated with oxygen; and "fermentation" which may be measured by the formation of lactic acid in the absence of oxygen.

Warburg supported his theory by demonstrating how various substances known to be carcinogenic could be used as respiratory poisons to destroy or inhibit respiration. To compensate for this loss of energy an anaerobic metabolism, i.e. the process of lactic acid "fermentation" is substituted. Respiration is then inhibited to such an extent that there is irreversible damage to "respiration" and a resulting increase in fermentation—indeed, such an increase of the fermentation that the failure of respiration is compensated for energetically.

To mention only a few respiratory poisons—arsenous acid may produce cancer, as will hydrogen sulfide and many of its derivatives, such as Thiourea and thioacetamide which will induce cancer of the liver and gall bladder in rats. Urethane is a non-specific respiratory poison inhibiting respiration as a chemically indifferent narcotic, since it displaces metabolites from cell structures. It is established that sub-narcotic doses of urethane cause lung cancer in mice in 100 per cent of treatments. According to Warburg, these cellular changes are initiated by a damaged respiration and this persists as a characteristic feature of the neoplastic condition.

✓ Energy made available by "fermentation" is only a small fraction of that liberated by the oxidation of sugar. The complete oxidation of 1 mole of glucose yields about 686 kcal. of free energy, while the fermentation of the same amount of glucose to lactic acid yields about 45 kcal. Thus, to obtain the same amount of energy by fermentation, about 15 times more glucose has to be decomposed. This possibly may be the basis of the weight loss so often seen with malignancies.

Warburg's theory of anaerobic glycolysis gained further support in 1953 when Goldblatt and Cameron¹⁷ induced malignancy in fibroblasts from rat myocardium subjected to anaerobiasis during long propagation in

vitro. Fibroblasts were grown in vitro and submitted to repeated periods of anaerobiasis by being exposed to nitrogen. After each exposure the cells submitted to an anaerobic atmosphere appeared to become more malignant until they reached a stage of definitive malignant change. Control studies utilizing normal oxygen concentrations did not show this change.

There has been much criticism and debate over Warburg's theory of a damaged tumor respiration but to date no one has disproved the basic concept and until this is done it will continue to challenge the imagination and resources of those engaged in the problem of carcinogenesis. What does remain as a well established phenomenon is the high anaerobic glycolysis of tumors. Rovin²⁸ has suggested that CO₂ is even necessary for the growth of the malignant cell. Moreover, the evidence presented in his article showed (1) that neoplastic tissues were capable of surviving and reproducing in an atmosphere of approximately 1.0 per cent oxygen and (2) that high levels of oxygen were not necessary for neoplastic survival.

It will be recalled that even before Rovin published his data on the survival of neoplastic tissue in a low atmosphere of oxygen, Gray²¹ demonstrated a reduced oxygen tension in tumors as compared to normal tissue, by the use of microelectrodes.

If, in theory, CO₂ is necessary for growth of the malignant cell, this milieu of decreased oxygen tension or increased CO₂ may occur in the patient suffering from malignancy with a decrease in arterial oxygen saturation or PO₂ and an increase in CO₂ saturation. When this situation is present, cellular proliferation of a malignancy may then be enhanced. This may be related to systemic alteration of blood oxygen saturation or it may be entirely local, where there is a known decrease in oxygen tension and partial pressure (PO₂).

If this environment is necessary for tumor growth, then, theoretically, a change in the balance of CO₂ to O₂ ratio may impede growth. The administration of oxygen under increased atmospheres would thus be the most logical approach to such a change, considering the "Pasteur Effect" whereby fermentation, (anaerobic glycolysis), can be suppressed by oxygen.

All tumor tissue may not be affected by this increase of oxygen but it is quite logical to assume that some tumors would be. Rueckert and Mueller²⁹ in 1960 demonstrated the effect of increased oxygen tension on HeLa cell growth.

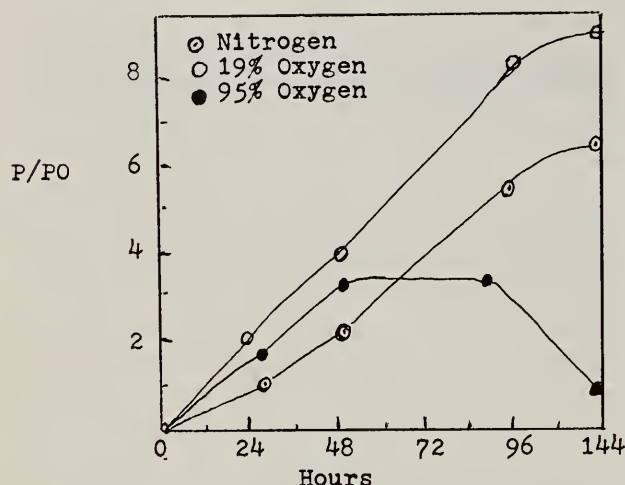


Figure 1

Rueckert, R. R., and Mueller, G. C.: "Effect of Oxygen Tension on HeLa Cell Growth." *Ca. Res.* 20: 2944-49, 1960.

The chart compares the growth response of cells cultured under atmospheres of 0, 19, and 95 per cent oxygen respectively. Under normal growth conditions (19% O₂) the cells grew and accumulated protein at a constant rate for four days and then slowed as the medium became exhausted. With 95 per cent oxygen, however the cells grew at a slightly decreased rate during the first 48 hours and then ceased growing abruptly. When oxygen was omitted from the gas phase the cultures exhibited an initial lag but then accelerated to a near normal growth rate. The response was suggestive of an adaptive alteration to the anaerobic environment.

From the experiment it appeared to these observers that cell division was the most sensitive process and blocked first. DNA, RNA and protein all continued to accumulate for an additional 12 hours.

While the mechanism of oxygen toxicity remains unsolved it seems that some fundamental process of the cell must be affected, since the synthesis of the polymers (DNA, RNA and protein) was inhibited by high oxygen tension. These syntheses, though suppressed, were sustained for 36 hours when

the further accumulation of these polymers was blocked completely.

Additional information to support the cellular changes that may take place in an anaerobic atmosphere was presented by Adebajo² *et al.* in 1961 when they demonstrated the alterations that took place in Strain L cells when incubated in an anaerobic atmosphere of 95 per cent nitrogen. Strain L cells incubated for 16 hours per day under an anaerobic atmosphere of 95 per cent nitrogen and five per cent carbon dioxide for a period of three months showed a marked increase in the aldolase and lactic dehydrogenase enzyme activities and a marked decrease in the cytochrome oxidase activity with morphologic changes characteristic of Ehrlich Ascites Carcinoma. An interesting phenomenon noted with this experiment was the reversal of these changes when the cells were reincubated in an aerobic atmosphere.

From the evidence presented here the following conclusions may be drawn:

1. Many tumors exist in an anaerobic atmosphere;
2. Cellular growth of the tumor cell can be retarded by increasing the oxygen tension in vitro;
3. The same relationship may exist in vivo.

This makes one wonder that if such a ratio of carbon dioxide to oxygen could be changed at the cellular level would it be beneficial in the treatment of malignancy? And if it could be changed, how could it be done?

The most feasible way would be the administration of oxygen under increased pressure. It is well known that most people have an arterial oxygen saturation in the 90+ per centile, however this is not to say the oxygen tension or PO₂ cannot be increased by breathing oxygen. Diffusion properties of oxygen indicate that the inhalation of pure oxygen at a pressure of one atmosphere raises the pressure of oxygen in certain tissues about 30 mm.⁹ Cater, *et al.*¹⁰ demonstrated that breathing oxygen causes a measurable rise

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of oxidation-reduction potential and oxygen tension in a variety of tissues in several different species. A high pressure tank for administering oxygen thus could be ideal for changing the oxygen tension and oxidation-reduction potential at the tumor level and subsequently retard respiration and growth of the malignant cell. This would be a relatively innocuous procedure if used within the experimental limits.

A healthy man can work many hours a day under a pressure of three atmospheres (absolute) breathing air. However, when the patient is breathing pure oxygen the time is limited. According to Behnke⁶ breathing pure oxygen at three atmospheres pressure for more than three hours is deleterious to the lungs and central nervous system. Within these limits however there is little risk involved.

Compression should be carried out slowly to minimize CO₂ retention and temperature changes. About 10 min. usually should be utilized⁵. Decompression should also be done over a period of about 7 to 15 min. to prevent the "Bends;" however it should be noted that Caisson's Disease rarely occurs with oxygen.

Libet²⁴ in 1962 demonstrated that treatment with high PO₂ can suppress the development of the leukemic symptoms of "virus induced leukemia" in mice and can even cause them to regress after they are developed, although these effects were not permanent after the oxygen treatments were stopped. Tentatively it was concluded by the authors that a higher than normal aerobic tissue PO₂ was exerting suppressor effects on the neoplastic process. This correlates with the findings that PO₂ in a cell culture must exceed 0.2 to 0.3 atmospheres to become markedly inhibitory to the multiplication rate.⁸

Extensive study has been done on the physiological effects of increased and decreased atmospheric pressure and the application of these findings to clinical medicine. Behnke⁶ has summarized many of these in his article. Apart from disturbances in gaseous equilibria, pressure as an ecologic factor can be reduced to 1/5 of an atmosphere or increased to 15 atmospheres without demonstrable physiological effect provided that equalization of pressure takes place in the air spaces of the ear and sinuses.

If oxygen is to be used in therapy as suggested, there are other effects that should be considered. At three atmospheres oxygen can be tolerated for a period of three hours.

At four atmospheres convulsive seizures are observed after about 45 minutes of oxygen inhalation.

If the oxygen is increased to four atmospheres, the quantity of oxygen going into physical solution in the tissues is much increased. During a period of oxygen inhalation for 17 minutes an apparent increase in oxygen consumption of 159 cc per minute or a 55 per cent increase over a control period was observed by Behnke.

It is important to know that lowering the oxygen percentage greatly extends tolerance time so that 60 per cent oxygen at sea level pressure can be breathed for months.

In 1955 Churchill, Davidson *et al.*¹⁴ irradiated eight patients under increased oxygen tension at three atmospheres inside a pressure chamber. Their results were very encouraging, showing confirmed changes histologically suggesting the beneficial effect of oxygen. This experiment was well controlled.

There have been many other experiments related to the combined oxygen and X-radiation therapy which have corroborated the findings of Churchill and Davidson. To mention only one, the investigation by Goldfeder and Clarke¹⁸ of the response of two types of tumor to X-irradiation in vivo at increased oxygen tension. One of the tumors under study was an epithelial type, designated DBAH; the other, a spindle cell type, designated DBAG. Both types of tumor were grown by serial transplants in isologous hosts of the inbred DBA/212 strain of mice. It was found that a dose of 5000 r applied locally to the spindle cell tumors produced more total regressions in those mice breathing 100 per cent oxygen at 23 atmospheres than in those breathing air. Somewhat similar results were obtained with 6000 r applied locally to the epithelial type of tumor. The significance of these results suggested that these tumors were more sensitive when irradiated while under an increased oxygen tension.

Gray²⁰ in 1961 proposed a theory for the radiobiologic basis of oxygen as a modifying factor in radiation therapy and demonstrated by the use of microelectrodes that the

average oxygen tension in tumors is often much below that in normal tissues.

SUMMARY

There is sufficient evidence to show a decrease in the oxygen tension of tumor tissue. Furthermore, there have been many investigations showing the toxic effects of increased oxygen tension on the growth of tumor cells both in vitro and in vivo. Because of these studies it is the author's opinion that high pressure oxygen administration would be helpful in the treatment of malignancies either alone or in conjunction with other forms of therapy.

Therapy is suggested in the form of a high pressure oxygen tank.

Various effects of high pressure oxygen administration are discussed.

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PRODUCTION OF TRANQUILIZERS

To produce a drug tranquilizer, the manufacturer must use 114 separate operations plus 138 tests. The process requires 31 different raw materials and takes 24 days to complete.

Congenital Diaphragmatic Herniae

RAMON ARTHUR SHANE, M.D.

Approximately two-thirds of all deaths in the first year of life occur in the first week. Among the preventable causes of death are the congenital diaphragmatic herniae. The mortality of this defect still remains in twenty-five to thirty-seven per cent. The diagnostic features, pre-and post-operative care, and operative techniques are discussed. It is hoped that improvement in these areas will reduce the mortality of this disorder.

APPROXIMATELY two-thirds of all deaths in the first year of life occur in the first week.²¹ Any child with severe dyspnea in the first week of life has a sixty per cent chance of fatality. Over fifty per cent of these cases are due to faulty pulmonary ventilation with one-half of these cases due to hyaline membrane disease. Cyanosis without distress is commonly due to congenital heart disease or brain injury while dyspnea with or without cyanosis has a great variety of causes. Among these, the congenital diaphragmatic herniae are included. These herniae are still the most common anomaly to

cause the death of an otherwise healthy infant in the first three days of life.^{5, 6} The incidence is reported to be in the range from 0.08 to 1.4 per cent.³

The care of the patients has changed drastically in the last twenty years. In 1940, Hedblom reported a 75 per cent mortality with watchful conservative care.¹² In 1940, Ladd and Gross were the first to advocate immediate surgical care of these patients with twelve of nineteen cases surviving. In 1953, Gross reported seventy-six of ninety-one cases survived with immediate surgical correction. Mortality rates, however, are still 31 to 38 per cent and a review of this subject seems in order.

Ambroise Paré was the first to describe a diaphragmatic hernia in 1575, while Riverius was the first to describe the congenital diaphragmatic hernia in 1656. Bochdalek described the anatomy of the diaphragmatic hernia in 1848 and His later described the pleuroperitoneal hiatus. The most common of these herniae is the posterolateral hernia of Bochdalek which accounts for seventy to ninety per cent of these defects. They vary in size from 1.5 centimeters in diameter to almost complete absence of the involved hemidiaphragm. Eighty-five per cent of these herniae occur on the left and explanations of this occurrence include earlier closure of the right pleuroperitoneal canal and the buttressing effect of the liver (acting to close

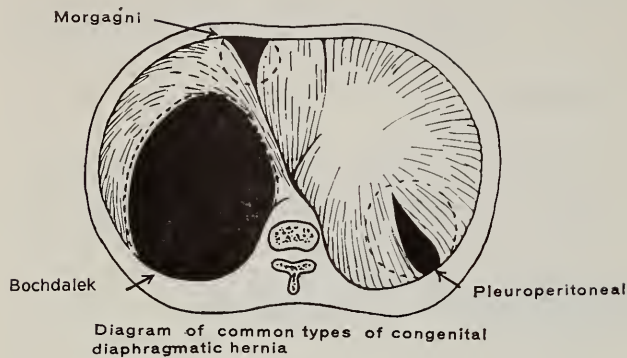


Figure 1

any defect which may occur). Ninety per cent of these herniae have no hernial sac with few to no adhesions between the bowel and pleural cavity. The other hernial defects include herniae through the foramen of Morgagni or retrosternal space of Larrey, and the hiatal hernia. (figure 1). Very rare defects of the diaphragm include even-contraction, and either unilateral or complete absence of the diaphragm. (figure 2).

The understanding of the clinico-pathological state is enhanced by a brief review of the embryological origin of the diaphragm. There are four embryological sources of the adult diaphragm. These include the septum transversum, the dorsal mesentery, and the pleuroperitoneal membranes including the posterolateral walls. The septum transversum originates in the area of the third and fourth cervical areas of the nine mm. embryo and descends in the third week to form the antero-central diaphragm. The dorsal mesentery forms the dorso-medial

portion, and the pleuroperitoneal membranes cover the two large posterior gaps. These membranes are derived from the Wolffian ridges and dorsal mesentery. The basic structure of the diaphragm is thus fused by the fourth week of fetal life, except for contributions by the posterolateral thoracic cavity. The neuromuscular components grow into the membranous diaphragm during the third month. The muscular portion is the combination of muscle contributed by pre-muscle masses located in the fourth cervical vertebral area of the nine mm. embryo and peripheral small muscular portions contributed by the lateral body wall. The diaphragm is therefore normally completed two to three weeks before the fifth month when the viscera begin their rotation during return of the midgut to the abdomen. The hernia occurs through the defect created by the absence of the pleuroperitoneal membrane posteriorly.

This disorder is associated with various congenital anomalies. An abnormal visceral mesenteric attachment was reported as 31 per cent by one group¹² with 20 per cent of these obstructive in nature. Another group⁸ reported all of their cases had an unfixed mesentery and a rotated cecum. (figure 3). Much discussion has arisen about the hypoplastic lung associated with this disorder. One author reported nine of eleven cases at autopsy showed no structural abnormalities and T. C. Moore, *et al.*, in 1957 reported eleven of thirteen cases with normal alveolar structures.²³ Another group reported excess bronchial structures with distorted outlines and cuboidal lined alveoli and alveolar ducts.⁶ Still another group studied two cases and reported decreased bronchial branches with normal structure and number of alveoli.¹ Another pulmonary anomaly is the extralobar sequestration which is a lower accessory lobe with no bronchial nor pulmonary vascular communication with arterial supply from the aorta and venous drainage into the hemiazygous veins.¹⁹ Fifteen and six-tenths per cent have congenital heart disease with 60 per cent of these potentially lethal.¹² A survey article from Denver, Colorado reported autopsy findings of 22 per cent preductal coarctation, 55 per cent patent ductus arteriosus and 44 per cent a patent foramen ovale.⁸

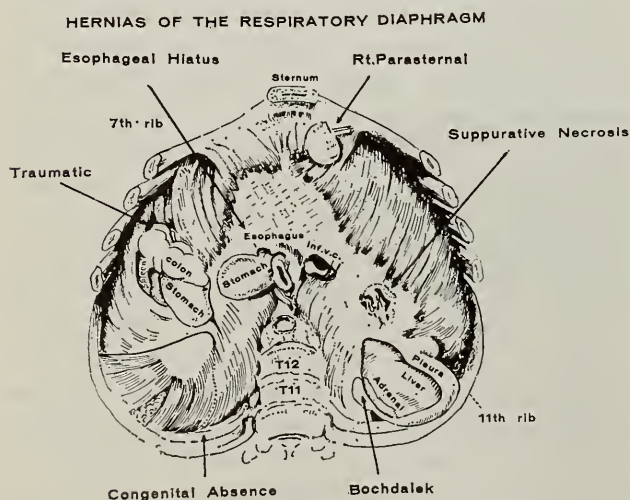


Figure 2

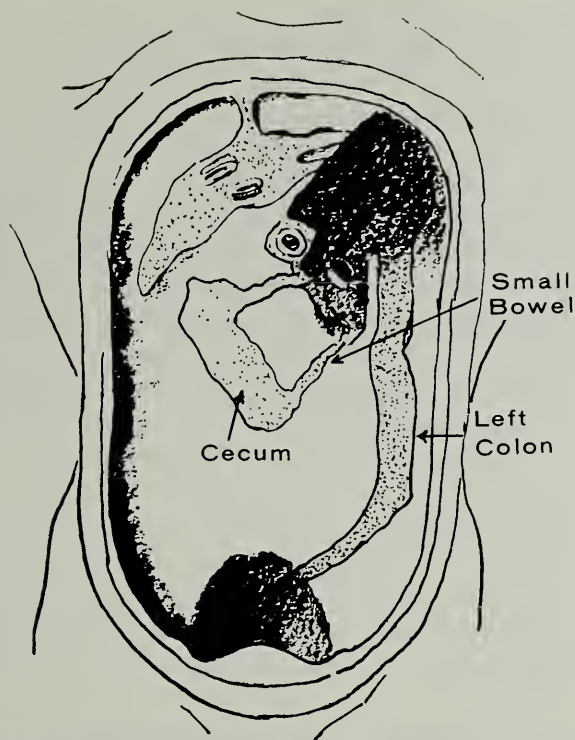


ILLUSTRATION OF ABNORMAL
MESENTERIC ATTACHMENT
(With Rotation upward and to the left)

Figure 3

The clinical picture of the disorder is quite variable. Forty-four per cent of cases are less than 48 hours old; 66 per cent are less than two weeks; and 88 per cent are less than six months of age. Males predominate five to one over females. The classical picture is a neonate with respiratory distress who has a barrel chest, a scaphoid abdomen and variable cyanosis. The less severe cases will have tachypnea with poor expansion of the involved chest. The child may be asymptomatic until the first feeding when severe cyanosis occurs as the intestines become distended with milk. Less commonly, and usually an older child will present with postprandial vomiting, recurrent respiratory infections, failure to thrive, or mild gastrointestinal distress.

Physical findings and roentgenographic confirmation are fairly consistent. The chest is barrel-shaped with poor expansion and widened interspaces on the involved side. Percussion and auscultation are variable depending on the status of the herniated bowel. Bowel sounds are rarely heard in the chest and are usually absent in the abdomen. There is a pseudo-dextrocardia due to the

mediastinal shift. Roentgenograms reveal multiple radiolucences with some air-fluid levels on the ipsilateral side as the viscera extend to the apex. The mediastinum is shifted and there is relative absence of air in the abdomen. One group reported 29 out of 34 cases were diagnosed by routine chest x-ray⁸; all are in agreement that barium swallow is rarely indicated.

The differential diagnosis by symptoms should include brain injury, subdural hematoma, hyaline membrane disease, laryngeal anomalies, mediastinal cysts, spontaneous pneumothorax, and trachea-esophageal fistulas. Physical examination and roentgenograms should make one consider and rule out congenital lung cyst, hypertrophic lobar emphysema, and pneumatocoles. The congenital lung cyst usually takes five to ten days before dyspnea develops as the check-valve mechanism allows air to enter only on inspiration. Hypertrophic lobar emphysema is characteristically in one of the upper or middle lobes with a spherical bleb due to the malformed cartilagenous bronchial rings allowing air to enter only on inspiration. Pneumatocoles are characteristically associated with a staphylococcal pneumonia in an older child.

The treatment of this congenital disorder is immediate repair; the philosophy of delay until the child is in less distress or larger is condemned by all. Respiratory efforts create negative intrathoracic pressure, accentuate the herniation while the viscera distend with air causing more mediastinal shift and contralateral lung compression. Preoperative preparation includes various aids. The viscera should be decompressed by continuous naso-gastric suction and enemas. The child should be positioned with the affected side down to attempt some relief of mediastinal shift. Oxygen should never be administered by mask and, if necessary, endotracheal assistance instituted with gentle positive pressure. With undue delay, irreversible neuro-

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Doctor Shane is a member of the Alpha Omega Alpha.

logical damage may occur or intestinal obstruction may occur with subsequent perforation or gangrene. Intestinal obstruction increases the operative mortality from 25 per cent to 67 per cent.

The surgical approach seems variable as the thoracic and abdominal approaches are advocated by an almost equal number of authors. The thoracic approach is generally accepted for rightsided herniae, older children and the desperately ill neonate. The liver prevents extensive herniation with little difficulty in visualization of the diaphragm. The older child has already demonstrated patency of his gastrointestinal tract. For the classical left-sided herniae in the neonate, the abdominal approach seems the more rational. The frequently associated malrotation, obstructing duodenal bands and the loss of domain in the abdomen would seem to dictate the abdominal approach as the one of choice. The herniated viscera are often described as difficult to reduce through the chest, one group⁸ reporting that one-half of thoracotomy approaches required an additional abdominal incision. One author reported ease in reduction if the cecum were reduced first, thus taking the inferior end of the displaced mesentery with it and the small bowel would follow easily.¹⁸

The paramedian and subcostal incisions are the usual choices of the abdominal approach. The subcostal incision is favored by some¹³ because an intentional ventral hernia may be made larger and mobilization of the upper abdominal musculature for repair of large defects is more easily performed. Most authors state that sufficient tissue is usually available for primary closure. However, various tissues are suggested for additions to effect an adequate closure. Anteriorly, the transversalis abdominalis, and posteriorly, the latissimus dorsi and renal fascia have been advocated. One author suggested a flap of the lower anterior and lateral rib cage.¹¹

Certain technical aspects should be mentioned. Reduction of the hernia from the abdominal approach is best accomplished with a catheter through the hernial orifice to allow air to enter the chest as hernial elements are withdrawn.³ One group enthusiastically advocates intentional ventral

hernia production.¹³ Eight patients had primary abdominal closure with a 75 per cent mortality, while twelve were repaired with intentional creation of a ventral hernia with less than a 16 per cent mortality including two deaths immediately postoperatively, secondary to severe neurological deficits due to hypoxia. Another group⁸ reported only three ventral hernias were required in thirty-four cases; however, they had six deaths at surgery or in the first postoperative day due to cardiorespiratory failure. Vigorous efforts to expand the ipsilateral lung should definitely be avoided because of alveolar rupture in the contralateral side with resultant pneumothorax. Repeated aspirations are also now thought to be harmful because the sudden negative pressure can produce spontaneous pneumothorax on the ipsilateral or contralateral side. Chest tube suction with 15 mm. of negative pressure is the suggested procedure of choice. Immediate expansion of the ipsilateral lung at surgery is a valuable prognostic sign⁸ with 15 out of 21 survivors. Most authors report, however, that the collapsed lung will gradually expand in a few days to a week with suction.

Postoperative complications have been reported as high as 45 per cent. Pneumothorax, which is the most serious complication, is now thought to be the sequel of alveolar rupture in the normal lung from too zealous efforts to expand the collapsed lung. Intestinal obstruction could be avoided by the Ladd procedure to lyse duodenal bands and meticulous inspection of the viscera prior to conclusion of the first operation. Atelectasis and pneumonia are best avoided by prophylactic antibiotics and nasotracheal suction. Mortality is reported at 25 to 37 per cent. This seems to be related to age when eight out of 34 neonates and two out of 32 over one month of age survived in one report.⁸ Another survey records a 44 per cent mortality in those twenty-four hours of age, while those one to thirty-one days of age had an eighteen per cent mortality. (figure 4).

SUMMARY

The congenital diaphragmatic hernia has been discussed with its embryology, associated anomalies, preoperative care and present approach. The experience at the Oklahoma University Hospitals has been dismal.

and survival. An improved clinical acuity, meticulous preoperative care, as outlined above, and prompt surgical intervention could reduce the mortality of this entity.

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ABSTRACTS

ANTICOAGULANTS AND MYOCARDIAL INFARCTION

Conrad et al.* investigated the effects of long term anticoagulant therapy in patients having myocardial infarctions, and found that in the group studied only those with a history of angina or infarction precedent to the presenting episode, and who were at least 60 years of age, were likely to benefit from this treat-

ment. Eighty-six patients were treated with either a placebo or an anticoagulant drug (phenprocoumon) under double-blind circumstances. Only patients without other cardiovascular or systemic disease were admitted to the study in order to avoid extraneous factors which might alter the outcome. Treatment was started on the 29th day after the presenting infarction, and following discharge from the hospital the patients were seen at two and three week intervals. Prothrombin times of the drug treated group were maintained at one and one-half times the control value.

Nine of the drug treated patients suffered a recur-

*Prevention of Recurrences of Myocardial Infarction. Loyal L. Conrad, John D. Kyriacopoulos, Carryl W. Wiggins, and Gerald L. Honick. *Archives of Internal Medicine* 114: 348-358 (September) 1964.

rence of their infarction, and four died thereof. Of those receiving a placebo, there were six recurrences, and of these five died. Only when the factors of age and previous history of symptomatic coronary artery disease were introduced into the analysis of the data, did it become clearly evident that one group of patients received significant benefit from anticoagulant treatment. Furthermore, the remainder enjoyed no advantage, but may have actually had an increased recurrence rate.

REVIEWER'S NOTE: Over the past 15 years hospital corridors have been well-warmed by the preachments of anticoagulant partisans seeking to convert their unenlightened colleagues, and vice versa. Although this study does not provide the final answer (and its authors are refreshingly candid in this regard), it does show that the use of anticoagulants in properly selected cases is beneficial, but that their routine prescription is dangerous and unwarranted. This report encompasses the first five years of the investigation; it is hoped that as more such data are accumulated and analyzed additional criteria for the correct use of these drugs will be identified.

DANGERS IN THE USE OF DRUGS IN PILOTS

It is estimated that 50 to 80 per cent of all major aircraft accidents are due to "human factors." Several elements compose these human factors.

Medical conditions that could affect these human elements are ingestion of drugs, symptoms or diseases for which the drugs are being taken, alcohol, hypoxia, fatigue, hypoglycemia, and tobacco. The military can control their flying personnel and prevent flying while under the influence of drugs. Recent investigation into civilian aviation accidents, however, has revealed a startling incidence of drug and alcohol intake. It is important that physicians be able to give adequate advice based on the possible effects of medication, the nature of the condition for which the medication is being taken, and the significance of these factors in relation to the environmental and human factors encountered in flight.

The author discusses several drugs in respect to adverse effects that could occur during flight. Alcohol is probably the most important drug he discusses. It is interesting to note that one drink at 10,000 feet has the effect of two or three at sea level. Amphetamines and tranquilizers can affect seriously the flying competence of a pilot. Other drugs discussed are antihistamines, muscle relaxants and cardiac agents. The author recommends that medication should be used only in correct dosage after the pilot is informed of possible effects on flying performance. The pilot should not fly for 12 hours after a test dose of the drug has been given.

REVIEWER'S NOTE: The author's points could just as well be applied to driving especially on long trips and to patients in dangerous jobs.

Drugs and Flying Personnel, J. Robert Dille, M.D., American Academy of General Practice, 30: 5, 86-90, 1964.

A PROPOSAL FOR BETTER TEACHING

The basic assumption of this article is that the most effective learning done in medicine is in relation to an immediate and important practical purpose such as dealing with a sick patient. Other means such as learning associated with a special interest, attending conferences or lectures, reading journals or textbooks on a regular basis are considered less effective. The least effective method is learning in response to academic demands such as an examination.

In our modern academic teaching centers the reliance of the student on teaching to obtain answers may make the student incapable of searching out answers to clinical questions himself. This is of course what he must do after he has left the teaching situation if he is to treat his patients effectively. To remedy this situation the author proposes a specialized library consisting of selected books, journals and an index of medical literature. This would be immediately adjacent to patients who are assigned to students. Essential to the unit would be a full time librarian to organize the unit and maintain liaison with the main library. At least one member of the clinical faculty should attempt to stimulate his colleagues, house staff and students in the utilization of the library. It is suggested that teaching sessions be conducted in how to utilize the medical literature to answer questions brought up by specific patients. Such a library would also be useful if operated in conjunction with an outpatient teaching clinic.

REVIEWER'S NOTE: A useful suggestion that might help catalyze the reaction between the student, teacher and patient for the more lasting benefit of the student.

Role of the Library in Learning to Learn Clinical Medicine, Kelly M. West, M.D., Journal of Medical Education, 39: 10: 910-917, Oct. 1964.

RECENT PUBLICATIONS

The **Journal** welcomes the opportunity to list current publications by any Oklahoma physician.

Activation of the Free Wall of the Right Ventricle in Experimental Right Ventricular Hypertrophy With and Without Right Bundle Branch Block. J. D. Kyriacopoulos, L. L. Conrad, T. E. Cuddy, and G. L. Honick. American Heart Journal 67: 81, 1964.

The Effect of Supplementary Feeding on Plasma Free Fatty Acids During Work. M. Mager, P. F. Iampietro, and R. F. Goldman. Metabolism 13: 823, 1964.

Effects of Atrial and Ventricular Tachycardia on the Cardiovascular Dynamics in Reserpinized Dogs. J. Nakano. American Journal of Cardiology 14: 89, 1964.

Volvulus of the Sigmoid in a Mental Institution. J. M. Ingalls, M. F. Lynch, and J. A. Schilling. American Journal of Surgery 108: 339, 1964.

Validity of Pure Tone Binaural Transmission Test. H. B. Ruhm and E. A. Walker, Jr. Archives of Otolaryngology 79: 568, 1964.

Reprints of the above publications are usually available on request from the senior author, c/o Mrs. Joan Campbell, Veterans Administration Hospital, 921 N.E. 13th Street, Oklahoma City, Oklahoma.

Kenyon Installed As OSMA President

Oklahoma City pathologist Rex E. Kenyon, M.D., was installed as president of the Oklahoma State Medical Association on May 15th during the association's 59th annual meeting in Tulsa. He succeeds Harlan Thomas, M.D., Tulsa general practitioner.

Doctor Kenyon is well-known throughout the state for his work in legislative and public relations activities of the association, having served as chairman of the OSMA Council on Public Policy for the past three years. He has also represented the American Medical Association nationally as a member of the organization's Speakers Bureau.

Other organizational honors include the presidencies of the Oklahoma County Medical Society and of the Oklahoma Association of Pathologists.

Doctor Kenyon's interest in organized medicine began during his undergraduate education at the University of Oklahoma School of Medicine. In 1950, he was a student delegate to the Constitutional Convention of the Student American Medical Association.

A 1951 O.U. graduate, Kenyon entered the private practice of pathology in Oklahoma City in 1955. Among his professional affiliations, he is a Diplomate of the American Board of Pathology, a Fellow of the College of American Pathologists and of the American Society of Clinical Pathologists, and a member of the International Academy of Pathologists. In addition, he holds an appointment as Assistant Professor of Pathology at the O.U. Medical School.

The medical association leader has been active in civic affairs, including membership on the Board of Directors of Oklahoma City's United Appeal, Chamber of Commerce, and Better Business Bureau.

Doctor and Mrs. Kenyon and their two daughters are members of the Methodist Church of Nichols Hills, where he served on the Board of Stewards during the years 1961 through 1963. □

Medicare Passage Raises New Woes

When the House of Representatives passed H.R. 6675 (Medicare package bill) on April 8th by a vote of 313 to 115, things were bad enough for the medical profession, but now that hearings are being conducted on the measure in the Senate Finance Committee, the American Hospital Association is pressing for amendments which will make matters even worse.

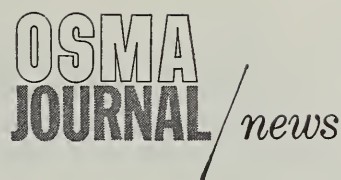
The national hospital administrators organization, supported by its state association affiliates (including the Oklahoma Hospital Association), is attempting to amend H.R. 6675 by splitting four medical specialty groups away from the rest of the medical profession and having them designated as "hospital services."

Radiology, pathology, anesthesiology and physical medicine are now included in the so-called insurance portion of the Medicare package, but if hospital administrators have their way, these physicians will be transferred under the hospital benefit portion, with their fees paid through the direct billing of hospitals and financed through higher Social Security Taxes.

The AMA, supported by its affiliate state and county medical associations (as well as by all of the national specialty societies involved), is maintaining that physicians in the four specialty groups are no different than other physicians—professional persons entitled to recognition as physicians, not as "hospital services."

Not only would the hospital association plan legislate an employee-employer relationship between hospitals and these specialists, but it is also expected to discourage young physicians from entering into training in these fields, thus compounding the shortage which already exists. Further, if certain groups of physicians are to be classified as hospital services, then what is to prevent all other physicians from being so classified in the years ahead?

In such event, the federal government and the American Hospital Association would be combined in part-



nership to completely control the medical profession.

The American Medical Association believes the hospital association's effort to amend H.R. 6675 is economically motivated. Reimbursement to hospitals under the bill will be on the basis of "reasonable cost," not on the basis of "customary charges." Hospitals will thus be made to reveal profits which may exist in the operation of laboratory and x-ray departments of practically all hospitals.

If H.R. 6675 is passed by the Senate as approved by the House, the AMA believes hospital costs would tend to be lowered. Over the past 25 years, hospital costs have risen 405 per cent, while physicians' fees have only gone up 100 per cent, as compared to a general cost of living increase of 115 per cent. If physicians' fees in the four specialties are stated separately from hospital costs, the AMA feels that costs to patients will be reduced.

The AMA admits that payments to the four specialties on a professional fee basis would necessitate new contractual arrangements in some instances between hospitals and phy-

(Continued on Page 216)

Annual Meeting Proceedings in June

Complete proceedings of the 1965 annual meeting of the association's House of Delegates will appear in the June issue of the *OSMA Journal*. The House of Delegates met on May 14th and 15th in Tulsa during the association's 59th annual meeting.

In addition to proceedings, committee appointments for the 1965-66 organizational year will be announced by OSMA president Rex E. Kenyon, M.D., Oklahoma City and the names of all state and county medical society officers will be published in this special issue. □

sicians (particularly in the fields of radiology and pathology), but does not feel that this represents an insurmountable obstacle.

As a matter of fact, similar compensation programs are already working in the field of radiology in major hospitals across the nation. These arrangements provide for the equitable separation of the professional fee (radiologist) from the technical fee (hospital). Thus, the hospital is reimbursed for its overhead expenses, use of equipment, film, etc., while the physician is paid separately for his skill.

Social Security for M.D.s

Aside from the squabble over the classification of the four specialties, H.R. 6675 contains a provision for the compulsory coverage of physicians under the Social Security system.

Organized medicine is hopeful that this feature will be amended out of H.R. 6675 by the Senate Finance Committee, since the vast majority of American physicians prefer to provide for their own retirement through insurance programs.

Assuming the final passage of H.R. 6675, self-employed physicians would immediately be required to contribute \$355.60 a year in Social Security Taxes, rising to \$514.80 a year in 1987. Since Social Security provides no guaranteed equity, and since most physicians would never receive any benefits because they continue to work beyond the magic age of 65, the scheme is considered to be a poor investment for the medical profession.

Any hope of defeating the passage of H.R. 6675 is virtually exhausted, because well over one-half of the U.S. Senators are publicly committed to it (Senator Fred Harris is opposed to Medicare, while Senator Monroney is listed as an author).

However, the American Medical Association is not compromising in its opposition to the principle of providing tax-supported health benefits to an entire age group without re-

gard to the variable financial needs of individuals.

Senator Russell B. Long, Senate Democratic Whip from Louisiana, is planning to introduce a substitute for Medicare. Long has said that the main difference in his version is that the substitute will provide a means test to determine the amount of the health benefits to be offered by the government and the amount to be "self-insured" by the beneficiary.

Medicare is expected to become law in July, 1965. □

Contest Winners Are Announced



OSMA Representative William K. Ishmael, M.D., Oklahoma City, presents \$250.00 check to Mrs. Kathleen Speed, teacher of the first-place essayist in the "Ability Counts" contest sponsored by the Governor's Committee on Employment of the Handicapped.

Winners were recently announced in the 1965 "Ability Counts" contest, sponsored by the Oklahoma Governor's Committee on Employment of the Handicapped. Winners at the state levels will go on to compete in the national contest which is sponsored by the President's Committee on Employment of the Handicapped.

Participants in the contest are eleventh and twelfth grade students in all public, private and parochial high schools. Title for this year's essay was "How the Handicapped Are Overcoming Barriers to Employment in My Community."

Miss Karen King of Northwest Classen High school, Oklahoma City,

was named first-place winner and received a \$200.00 U.S. Savings Bond, an expense-paid trip to Washington, D.C., for participation in the national contest, and a two-year scholarship (tuition and fees) to a state college of her choice.

Teacher of the first-place winner, English teacher Mrs. Kathleen Speed of Oklahoma City, was awarded a \$250.00 expense-paid trip to Washington, D.C., by the Oklahoma State Medical Association. The OSMA was the first state medical organization to lend financial support to the contest. Since this endorsement was started several years ago, other state associations have begun sponsoring their state contests.

Presentation of the awards was made in the Blue Room of the State Capitol. William K. Ishmael, M.D., represented the OSMA during presentation ceremonies. □

"New Dean" Grant Goes to Dennis

The Smith Kline & French Foundation, Philadelphia, has awarded a \$5,000 "new dean" grant to James L. Dennis, M.D., dean and director of the University of Oklahoma Medical Center.

Doctor Dennis said the grant was made under the pharmaceutical foundation's program of unrestricted gifts to help newly-appointed medical school deans with projects that cannot be supported by tax or governmental agencies.

Doctor Dennis assumed his duties at the OU medical school last September. □

Assistant Professor of Microbiology Named

Richard M. Hyde, Ph.D., has been appointed an assistant professor of microbiology at the University of Oklahoma Medical Center. He has been a member of the faculty of the University of Missouri School of Medicine since 1962, when he received his Ph.D degree at the University of South Dakota. □

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AMA Completes Plans for Annual Meeting

One of the largest groups of physicians in history will converge on New York City this June for the 114th Annual Convention of the American Medical Association.

Dates for the convention are June 20th through 24th, and AMA officials estimate that nearly 25,000 physicians will attend the scientific sessions. Guests, medical students, nurses, technicians, and industrial exhibitors are expected to swell the total attendance to nearly 70,000.

Physicians who attend the meeting will be a part of one of the most outstanding scientific programs ever presented. The chairman of the AMA Council on Postgraduate Programs, Gilson Colby Engel, M.D., Philadelphia, explained that members of his Council and representatives of the AMA's scientific sections have compiled a program designed to provide information which will benefit all physicians, including general practitioners and specialists in all types of practice.

Feature of the meeting will be six general scientific sessions, coordinated by the secretaries of the AMA sections. Topics will include organ transplantation, diagnostic cytology, metabolism in growth development and aging, non-narcotic drug addiction, adverse drug reactions, and hearing.

Also, 60 reports on recent research developments will be given during the fifth Multiple Discipline Research Forum, which is presented as the program of the Section of Experimental Medicine and Therapeutics.

More than 350 scientific exhibits, some designed to instruct the physician and others to report on results of recent investigation, will be housed in the New York Coliseum, which also will be the site of many of the scientific sessions and the medical motion picture and television programs.

Symposiums Planned

An example of the excellence of this year's scientific program is

found in the portion of the program conducted by the Section on General Surgery. This program, which includes many of the nation's best-known surgeons, features symposiums on breast cancer, diseases of the pancreas, biliary tract disease, diseases of the parathyroid and nodular diseases of the thyroid gland.

The Symposium on Breast Cancer, scheduled for Monday morning, June 20th, will be moderated by Isidor S. Ravdin, M.D., Vice-President for Medical Affairs of the University of Pennsylvania Medical School, Philadelphia.

One of the convention's distinguished foreign speakers will appear Wednesday morning at the Symposium on Diseases of the Pancreas. He is Karl Grozinger, M.D., professor of surgery at the University of Heidelberg, Germany, who will speak on "Treatment of Acute Pancreatitis."

Also on Wednesday morning will be the Symposium on Biliary Tract Disease. Participants in both morning symposiums will participate in a panel discussion.

On Wednesday afternoon, the Symposium on the Parathyroid and Thyroid Glands will be followed by a panel discussion.

Alton Ochsner, M.D., of the Ochsner Clinic, New Orleans, will moderate the Symposium on Nodular diseases of the Thyroid Gland, which will also be a portion of the Wednesday afternoon program.

Many Foreign Physicians to Attend

American physicians will have an opportunity at the New York meeting to meet and mingle with other physicians from throughout the world, and to learn of current medical knowledge in other lands. Foreign doctors have much to learn from American medicine, and at the same time there is much that American physicians can learn from the many

fine professional men in medical science in other lands.

Many physicians have decided that the 1965 meeting offers an excellent opportunity for a combination family vacation and postgraduate study session in New York. The World's Fair will be in its second year this summer. □

Cancer Conference Set for Denver

The Mile High City, Denver, Colorado, is the site of the 19th Annual Rocky Mountain Cancer Conference, July 16th-17th, at the Brown Palace Hotel. The two-day session features some of the nation's distinguished speakers on the subject of cancer.

Morning symposia for the two-day session will deal with "Practical Chemotherapy in Cancer" and "Malignant Lesions in the Colon." The afternoon sessions will be devoted to scientific papers by guest speakers on the first afternoon and an "Information Please" session scheduled for the second afternoon.

Doctor James Z. Appel, president-elect of the American Medical Association, and Doctor Murray M. Copeland, President of the American Cancer Society, will participate in the Conference which is held annually in Denver, Colorado, and co-sponsored by the Colorado Division of the American Cancer Society and the Colorado Medical Society.

Speakers on the two-day scientific program include: Lauren V. Ackerman, M.D., Professor of Surgical Pathology and Pathology of the Washington University School of Medicine, St. Louis, Missouri; Joseph H. Burchenal, M.D., Professor of Medicine, Cornell University Medical College and Vice-President of Sloan-Kettering Institute, New York; Walter W. Carroll, M.D., a surgeon from Chicago; and Walter T. Murphey, M.D., Chief, Department of Radiation Therapy, Buffalo General Hospital, New York.

Further information may be obtained by writing Rocky Mountain Cancer Conference, 1809 East 18th Avenue, Denver, Colorado 80218. □

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Heart-Cancer-Stroke Plan Attacked by AMA

The American Medical Association has announced its opposition to President Johnson's program to attack heart disease, cancer and stroke by pouring more federal dollars into the health care arena.

AMA staff officials charged that the report of the President's Commission on Heart Disease, Cancer and Stroke is based upon invalid and misleading premises and that its passage would further fragment the nation's health care services.

Johnson's plan contains thirty-five recommendations, some of which are outlined below:

- Top priority is given to establishment of a national network of regional centers—25 in heart disease, 20 for cancer and 15 devoted to stroke, over a five-year period. Federal funds totaling \$850 million would be earmarked for this project alone. Centers would be established, wherever possible, in existing medical institutions.

- National network of diagnostic and treatment stations—150 in heart disease, 200 in cancer and 100 in stroke. For better geographical spread, half of them would be set up in community hospitals and half in metropolitan medical centers. Appropriations of about \$480 million are recommended.

- Grants to medical schools to promote a variety of cooperative arrangements with public and private health agencies—\$250 million.

- Developmental grants totaling \$40 million to strengthen medical schools' academic and research programs.

- A new unit in Public Health Service to coordinate the national stroke program.

- Incentive grants of \$1 million annually to communities to stimulate planning activity.

- PHS-administered medical rehabilitation projects, along with expanded function in this field by Vocational Rehabilitation Administra-

tion. Projected five-year expenditures—\$115 million.

- Statewide laboratory facilities for heart disease control programs, established and maintained by PHS at cost of \$3 million yearly.

- National cervical cancer detection program, participating hospitals to receive about \$20 million in grants over a three-year period.

- Continuing education of the health professions at a cost of upward of \$10 million annually for seminars, curricular aids, etc.

- Establish five noncategorical biomedical research institutes yearly for five years at qualified teaching institutions—\$112 million.

- Set up 30 specialized research centers to study specific aspects of heart disease, cancer and stroke, along with three bioengineering cen-

ters and three in rehabilitation biomedical engineering research, at a cost of some \$42 million.

- Outright subsidy of medical schools and removal of existing ceiling on grants for construction and equipment of facilities.

- Scholarships, educational materials and other incentives to recruit for health professions and paramedical disciplines.

- Continuation and expansion of Federal grants supporting undergraduate training in heart disease, cancer, stroke and rehabilitation. Estimated cost over five-year period—\$40 million.

- Concentration of more funds on research training grants and fellowships in these specialized fields—\$135 million. □



Clinical Development Corporation

An unique company specializing in the construction of medical and dental clinics began operation in Oklahoma in 1963. It is the Clinical Development Corporation, 4500 North Lincoln, Oklahoma City.

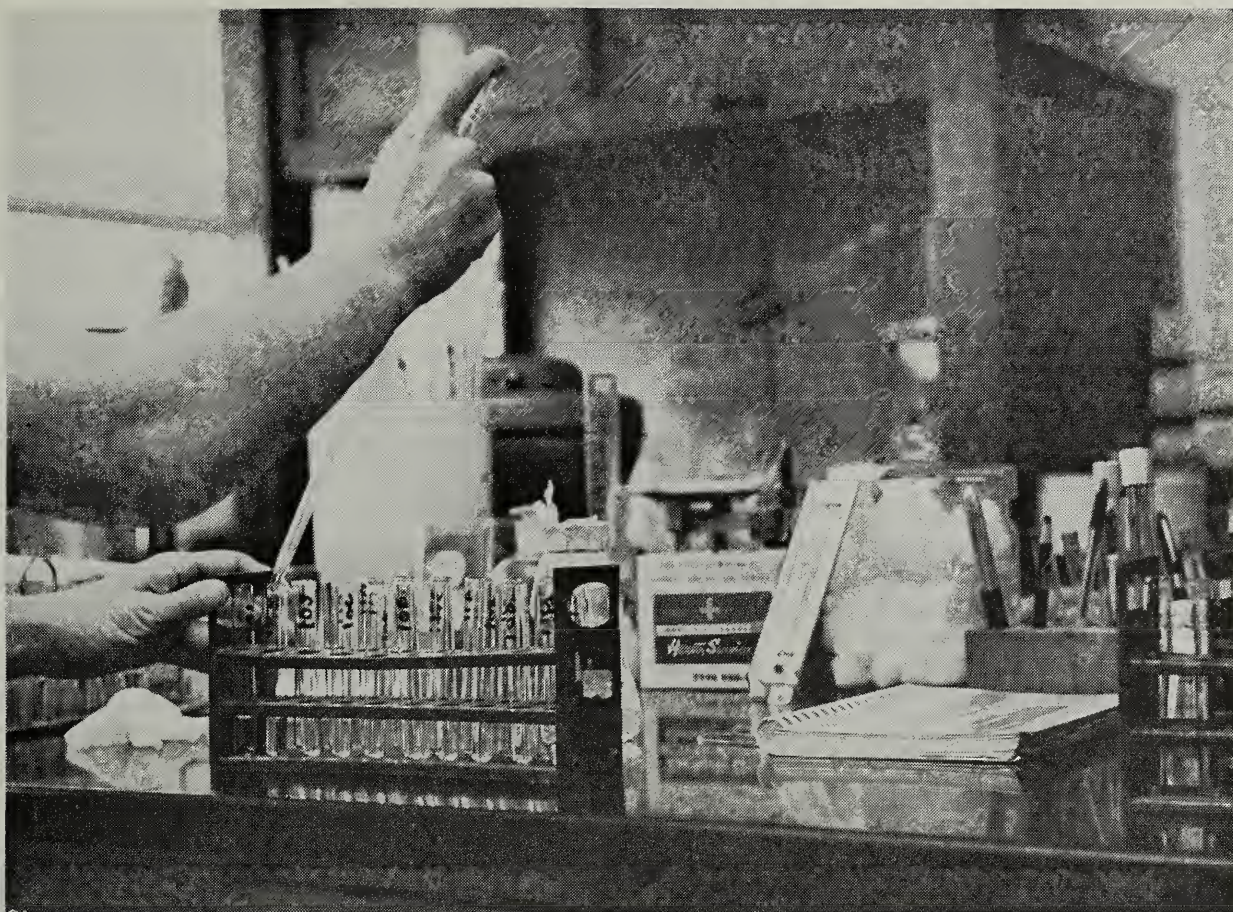
The firm, headed by businessman B. R. Ringer, offers its clients a package plan for site selection, clinic design, construction, customized interiors, equipment and complete financing at a guaranteed monthly rate.

Last year, Mr. Ringer reports that medical and dental facilities were constructed to accommodate 15 doctors. The stock corporation's net worth has grown remarkably since

1963, according to Mr. Ringer, rising from \$48,000 at the end of the first year's operation to more than \$400,000 by December 31, 1964.

Clinical Development Corporation is now extending its operation into several southern states, and has established branch offices in Tennessee, Arkansas and Texas.

The chairman of the corporation's Board of Directors is L. R. Kirby, M.D., Enid. Other Board members are Wylie G. Chesnut, M.D., Miami, Mr. Leland V. Maples, Oklahoma City, E. H. Shuller, M.D., McAlester, L. Darryle Gibson, D.D.S., Guymon, and J. Coyle Gibson, D.D.S., Guymon. □



Good Health Is for Everyone

Good health is not an accidental favor that is bestowed upon a few individuals . . . it is a blessing, earned through years of research by a dedicated medical profession, to be shared by all people.

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BOOK REVIEW

CASE STUDIES IN ANATOMY. By Ernest Lachman, M.D., Professor and Chairman, Department of Anatomy and Professor of Radiology, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma. First edition. paper, 238 pp., with 45 l.d. illustrations. New York: Oxford University Press, 1965. \$2.95.

In the Preface, the author states: "In the teaching program in gross anatomy we face the well-known dilemma that at the time the student has to master a large body of anatomical information he is not aware of its application to clinical medicine. On the other hand, when he is ready to utilize his knowledge at the bedside he has forgotten a substantial part of this material. Yet the importance of anatomical reasoning and the application of anatomic principles in the explanation of clinical signs and events and in the design of therapeutic procedures can be exemplified almost from the first week of the basic course. The student can be made to realize from the beginning that his day-by-day learning is meaningful in terms of his future work as a physician."

This book is directed specifically to the first and second year medical student for collateral reading, either in the basic anatomy course or in advanced courses in the field. **Case Studies in Anatomy** is made up of a series of 30 clinical case studies designed to illustrate the application of anatomy to clinical medicine. Each case study consists of a pertinent history, the results of physical examination, diagnosis, treatment, and a concise but comprehensive discussion of the case from an anatomical viewpoint liberally sprinkled with pertinent questions and answers. Drawings illustrate the pertinent anatomical points. It is divided into pertinent case studies relating to head and neck, body wall and back,

thoracic viscera, abdominal and pelvic viscera, upper extremity and lower extremity.

Although this work is primarily directed toward the student of anatomy, it also has considerable information for the house officer or practicing physician. For example, in the discussion of tracheostomy, the clinical findings in an 11-month-old infant with upper respiratory obstruction due to acute infectious croup are cited. In addition to the clinical findings and the role of adjunctive therapy in the case, there is an excellent discussion of the pathogenesis of respiratory obstruction, the practical anatomical and technical aspects of tracheostomy and a discussion of its complications.

In other case studies such as that on the middle lobe syndrome and mediastinal pleurisy, the pertinent anatomical points are correlated, not

only with the clinical aspects, but also with roentgenographic findings. The titles of some of the case studies—such as facial paralysis, indirect inguinal hernia, obstruction of the superior vena cava, hydronephrosis due to aberrant renal vessels—illustrate the helpful anatomical and clinical correlation.

This book is of value to house officers and physicians in all specialties. For example, every practicing physician would benefit by reading the case studies on intragluteal injection which points out the hazards of intramuscular injections in the buttocks and the complications following intravenous injection in the section on the upper extremity. This book is recommended as a valuable reference, not only for the primary purpose for which it was designed but for practicing physicians as well.

—Harris D. Riley, Jr., M.D. □

Samuel J. Bradfield, M.D., Honored



Samuel J. Bradfield, M.D., (right) veteran Tulsa surgeon, received a gold pin from the Oklahoma State Medical Association in recognition of the completion of 50 years in the active practice of medicine. Making the presentation is Maxwell A. Johnson, M.D., (left), President of the Tulsa County Medical Society. In the center is Hugh B. Nicholas, M.D., Doctor Bradfield's close personal friend and physician. The pin was awarded in ceremonies at the April 12th meeting of the Tulsa County Medical Society.

Doctor Bradfield, who entered practice in 1915 after graduating from the University of Oklahoma School of Medicine, was recently honored by the Tulsa society auxiliary as the 1965 Doctor of the Year.

DEATHS

CHARLES M. BIELSTEIN, M.D.
1915-1965

An Oklahoma City pediatrician for almost 20 years, Charles M. Bielstein, M.D., died at his farm near Harrah, Oklahoma on May 6th, 1965.

A native of Houston, Texas, Doctor Bielstein received his medical degree from Baylor University School of Medicine in 1941. His practice, which was established in Oklahoma City, was continuous except for a year's postgraduate training and his service in the Army Medical Corps during World War II. In addition to his private practice, he was Assistant Professor of Pediatrics at the O.U. Medical Center.

Doctor Bielstein had served as Chairman of the Advisory Committee on Medical Care for Public Assistance Recipients and he was also on the Handicapped Child Committee of the American Academy of Pediatrics of which he was a member.

He had served as President of the Oklahoma County Medical Society in 1960.

DICK H. HUFF, M.D.
1919-1965

President of the Oklahoma County Medical Society, Dick H. Huff, M.D., died in Oklahoma City April 27th, 1965. The Oklahoma City allergist was born in Wanette, Oklahoma in 1919 and received his medical degree from the University of Oklahoma School of Medicine in 1943. Following two years service with the Army Medical Corps, Doctor Huff returned to Oklahoma City to begin practice in 1946.

In addition to his private practice, he was assistant professor of medicine at the O.U. Medical School.

Doctor Huff was active in many civic and church groups. His medical affiliations included the American Academy of Allergy, the Southwestern Allergy Forum, the Oklahoma College of Chest Physicians and the Southern Medical Association. He was a Fellow of the Ameri-

can College of Allergists and a member of the Board of Regents of the American College of Allergy.

RICHARD WYRICK, M.D.
1925-1965

Richard Wyrick, M.D., 39-year-old Oklahoma City ophthalmologist, died at Lake Texoma April 16th, 1965.

A native of Los Angeles, California, Doctor Wyrick came to Oklahoma City in 1945 when he entered the University of Oklahoma School of Medicine where he graduated in 1949.

He was a Diplomat of the American Board of Ophthalmology and a Fellow of the American College of Surgeons. In addition to his private practice, he was Professor of Ophthalmology at the OU Medical School.

A. S. NUCKOLS, M.D.
1884-1965

A pioneer Ponca City physician, A. S. Nuckols, M.D., died April 22nd, 1965, in Ponca City.

The 81-year-old physician was born near Westphalia, Kansas and graduated from Barnes University Medical School in 1906. After practicing a short while in Brewster, Washington, Doctor Nuckols came to Ponca City where he remained in active practice until shortly before his death.

For rendering outstanding service to his profession, Doctor Nuckols was presented an Honorary-Life Membership by the Oklahoma State Medical Association in 1958.

MANFORD S. WHITE, M.D.
1897-1965

Manford S. White, M.D., 67-year-old former longtime Blackwell physician, died in Blackwell January 23rd, 1965.

He was born in Fort Branch, Indiana in 1897 and graduated from the University of Louisville School of Medicine in 1924. Later that year,

he established his practice in Blackwell where he remained until his retirement in 1956 when he moved to Decatur, Arkansas.

Doctor White was active in civic as well as medical affairs having served as city physician from 1927 to 1930. He served in both World War I and World War II.

MURL P. SPRINGER, M.D.
1888-1965

Murl P. Springer, M.D., 76-year-old founder and former operator of the Springer Clinic in Tulsa, died in Tulsa April 13th, 1965.

Doctor Springer came to Tulsa from his native Pennsylvania in 1909 and established his medical practice in 1915 following his graduation from Western Reserve Medical School in Cleveland, Ohio. He retired from active practice in 1948.

In recognition of his outstanding service to humanity and the medical profession, Doctor Springer was awarded an Honorary-Life Membership by the Oklahoma State Medical Association in 1962.

JAMES O. LOWE, M.D.
1896-1965

A veteran Tulsa surgeon, James O. Lowe, M.D., 68, died in Tulsa January 16th, 1965.

A native of Mississippi, Doctor Lowe received his medical degree from Tulane University School of Medicine in 1919. He practiced in Okmulgee until 1930, when he moved to Tulsa where he continued his practice until his retirement last year.

He was a Life Member of the Tulsa County Medical Society. □

SILAS A. LANG, M.D.
1903-1965

Silas A. Lang, M.D., 61-year-old Nowata physician, died in Bartlesville, March 5th, 1965.

A native of Newport, Ohio, he moved to Tulsa in 1905. After gradu-

ating from the University of Oklahoma School of Medicine in 1932, he established his practice in Nowata in 1933.

Doctor Lang's medical affiliations included the Southern Medical Association, the American Academy of General Practice, the Pi Kappa Phi and the Phi Beta Pi.

WILLIAM T. WRIGHT, M.D.
1917-1965

William T. Wright, M.D., who maintained offices in both Jay and Grove, Oklahoma, died April 3rd, 1965.

A native of Hugo, Oklahoma, Doctor Wright graduated from the University of Oklahoma School of Medicine in 1950. The following year he established his practice in Jay.

Doctor Wright was a veteran of World War II.

RAYMOND H. FOX, M.D.
1885-1965

Pioneer Altus physician, Raymond H. Fox, M.D., died in Altus, April 29th, 1965.

Born September 29th, 1885 in Caldwell, Kansas, Doctor Fox graduated from the University of Kansas School of Medicine in 1907. He came to Oklahoma only a few months after statehood and continued an active practice until his retirement a few years ago. He was a veteran of both World War I and World War II.

Active in civic and political work as well as his medical field, Doctor Fox was a charter member of the Jackson County Medical Society.

In 1959, the Oklahoma State Medical Association presented Doctor Fox with a Fifty-Year-Pin for over a half-century of devoted medical practice. □

Letter to the Editor

The following letter was mailed today to Senators Monroney and Harris, Congressman Ed Edmondson and President Johnson.

March 13, 1965

Gentlemen:

Medicine, little interested in the sound and fury of politics, may find itself under Medicare control, a pawn of bureaucrats. Reduced to a trade, its efforts shuffled about by party office holders, it carries a joker in its pack. Be ready to receive its demand for a thirty-hour week.

Is any deluded son of Nestor in Washington so naive as to think that two hundred thousand intelligent medical men will continue driving through their days and nights, their Sundays and your holidays, while all other government servants, as well as miners, firemen and street sweeps, cruise along on an eight-hour schedule?

Prepare, my dear Senators and Congressmen, to furnish your people with four hundred thousand additional doctors for a four-shift daily service. Prepare to finance students through a ten year course at five thousand dollars for each annually. A neat figure, that! Is it twenty billion, by any chance?

Plan to erect fifteen hundred hospitals, each two hundred beds, at thirty thousand dollars a bed, a little item of nine billion dollars. Then throw millions, about six hundred of them, into new medical schools, after you have learned to build them (they differ from post offices), and find, if you can, in this great round world, teachers to staff these institutions.

Be prepared, at the end of six-hour service, to have your state-appointed doctor walk out from a pneumonia crisis or an acute illness in your home or designated hospital, then wait for X or No. 16 of the grave-

yard shift to carry on or finish the work at hand.

When an acute abdominal emergency occurs in your family, do not be surprised to find the best surgeon you know lost on his way to an unknown golf course, his government scheduled hours to begin at 4:00 p.m.

Senators and Congressmen, learn to pray—for your friends and for your families.—William M. Haynes, M.D., Henryetta □

Gail D. Adams, Ph.D., Joins O.U. Faculty

Gail D. Adams, Ph.D., formerly of the University of California School of Medicine in San Francisco, has joined the faculty of the University of Oklahoma Medical Center as professor of radiology (radiation physics) and radiation physicist.

A California faculty member since 1950, Doctor Adams was associate director of the Radiological Laboratory, research physicist and clinical professor of physics there before accepting the Oklahoma appointment.

He received the Ph.D. degree at the University of Illinois in 1943 and taught at Illinois for ten years. □

Social Medicine Advocate Promoted

Wilbur J. Cohen, a longtime advocate of health care for the aged under social security, has been promoted to Under Secretary of Health, Education and Welfare.

Cohen, 51, has been Assistant HEW Secretary for legislation since 1961. The post made him the Administration's chief lobbyist for medicare. Playing mainly a behind-the-scenes role, Cohen long has worked for social security financing of health care for the aged.

At one time, he was director of the social security research and statistics division. □

WILL BUILD

New modern Medical Building for three or four doctors, N.W. corner 72nd and May Avenue, Oklahoma City. Prominent corner, lots of parking.

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Legislature Passes Child Abuse Law

The Oklahoma Legislature passed a Child Abuse Law for Oklahoma which was signed into law on March 18th by Governor Bellmon.

Senate Bill 18, authored by Senator Denzil Garrison and co-authored in the House by Representative James W. Connor, both of Bartlesville, provides for the mandatory reporting of physical abuse or neglect involving a child under age 17.

Physicians, dentists and registered nurses are required to report such cases promptly to a public child protective agency, to a public welfare official, to the sheriff or county attorney, or to the police. It shall be considered unlawful (misdemeanor) for any person to knowingly and willfully fail to promptly report cases of

child abuse. Persons acting in good faith pursuant to the act shall have immunity from any liability, civil or criminal, and shall have the same immunity with respect to any judicial proceeding resulting from making such a report.

In cases where punitive charges are filed against the offending parents or guardians, the doctrine of "privileged communication" may not be used as the basis for withholding information concerning the condition of the child.

When a physician discovers a suspected case of child abuse while acting as a member of a hospital staff, he shall notify the administrator who shall promptly report the incident to the designated public officials. The

report should be in writing, and should contain the names and addresses of all concerned, the age of the child, the extent of injuries (including evidence of past injuries) and any other information which might be helpful in establishing responsibility for the apparent abuse.

S.B. 18 is the product of a nationwide effort by the U.S. Children's Bureau and the Council of State Governments to protect the abused child through state legislation.

The OSMA State Legislative Committee caused to be introduced into the Legislature a rival bill which simply provided the physician with immunity but did not make reporting mandatory. However, on advice of the OSMA legal council, the association later backed the mandatory provision. □

Miscellaneous Advertisements

MISSIONARY-PHYSICIAN is badly needed for new hospital to be opened in February, 1966 on Little Diomed Island off the west coast of Alaska. Anyone interested may secure further information by contacting A. C. Hirshfield, M.D., 908 N.W. 50th, Oklahoma City.

FOR SALE—suburban Oklahoma City—modern dental clinic building. Four operatories and hygienist. Large pleasant reception room. Ample paved parking. One suite leased at \$300 per month to general practitioner. Owner leaving to specialize. A complete going practice and property. Write Robert D. Curran, Keats Soder, Realtors, 217 North Harvey, Oklahoma City, Oklahoma.

WANTED: Locum tenens for month of June. Contact Key S, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE complete equipment for establishing a medical practice, all in excellent condition, including cabinets, sterilizers, autoclave, examining tables, desks, chairs, waste and scales for two rooms. Also Diathermy Metabolor, Burdick EKG, Thermo-fax and laboratory equipment. This equipment will have to be seen to appreciate. J. Hoyle Carlock, M.D., Gilbert Building, Ardmore, Oklahoma.

WANT your office away from traffic and noise? Tired of driving a great distance to make your hospital visits? Wishing your patients didn't have to climb stairs or operate elevators? Then you should investigate the attractive offices available in this deluxe new professional building adjacent to Baptist and Deaconess Hospitals. Clinic Building, 3434 Northwest 56th, Oklahoma City. Contact Key Y, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE well-improved 971-acre farm in Grady County, Oklahoma, one-half mile south of Bradley, Oklahoma. 400 acres of Washita River bottom land and remainder in grass and pasture. TERMS: Cash, five per cent return of sale and balance upon confirmation of sale by the County Court of Oklahoma County, Oklahoma. Contact Ura Thompson and Betty Jane Marchant, co-executors of the estate of B. D. Lack, deceased, at 1334 First National Building, Oklahoma City, Oklahoma, telephone CEntral 2-1860. The estate will sell the surface only and will reserve all mineral interest underlying said farm.

FOUND: A physician's reference book and an attractive ball point pen. These two articles were left at Saint Anthony Hospital during a Seminar on Anxiety and Depression in February, 1965. Owners may identify and claim them at the Public Relations Office, Saint Anthony Hospital, Oklahoma City.

Miscellaneous Advertisements

Continued

BIG SAVINGS on "Returned-To-New" and surplus equipment. Reconditioned, refinished, guaranteed, X-Ray, examining tables, autoclaves, ultrasonics, diathermies, or tables, or lights, and more. Largest stock in the Southwest. **WANTED:** Used Equipment. TeX-RAY Co., 3305 Bryan, Dallas. (Open to the profession Wednesdays, Thursdays, 9-5. Other hours by arrangement.)

WANTED: Young energetic general practitioner to assume practice without any financial obligation in two-man clinic. Senior doctor anxious to retire. Huge general practice, surgery, obstetrics and industrial work. If interested, please contact by letter, P.O. Box 3669, Odessa, Texas. Give telephone number.

SURGEON completing residency in July, 1965, desires Oklahoma location. O.U. graduate, military service completed. Contact W. E. Bowers, Jr., M.D., 5907 Windamore Drive, Little Rock, Arkansas.

BOARD certified surgeon desires Oklahoma location in group or partnership practice. 1955 graduate of University of Texas, Medical Branch, will complete military service in June, 1966. Contact Thomas F. Camp, Jr., M.D., 6518 Carrie Lane, San Antonio, Texas.

MEDICAL technologist with B.S. degree in Medical Technology and five-years experience desires relocation. Have all necessary laboratory equipment including Ames Gamma Cord for doing T₃ tests. Contact Key K, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

EXCELLENT opportunity for general practitioner to join on associate basis. City of 17,000 with excellent schools and located ten minutes from Oklahoma City or Norman. Private suite in new clinic now available. Good hospital with full privileges available. Contact Key M, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR SALE: New 2,000 sq. ft. clinic suitable for one or two doctors. Across street from new 25-bed hospital, central heat and air conditioning with ample off-street parking on premises. Financing arranged to suit your needs. A rapid growing community close to Tulsa on shore of Keystone Lake. Need and opportunity for a good doctor is here. Contact Bob Diehnell, EL 8-2582 or EL 8-2429, Cleveland, Oklahoma.

WANTED board qualified or certified ophthalmologist in town of 24,000 population with a trade area of approximately 50,000. Town has three fully accredited hospitals. Large ophthalmology practice being abandoned. Excellent opportunity. Contact Kevin C. Taylor at BR 3-5801 or P.O. Box 909, Shawnee, Oklahoma.

INTERNIST for five-man department in busy and steadily growing north central Kansas 13-member multi-specialty group. Partnership after salary for two years. Board eligible or certified. Contact Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

WANTED internist and general surgeon, board eligible or certified to be associated with 12-man specialty group; salary open; no investment; early partnership; city of 35,000. Write R. S. Fillmore, M.D., King's Daughters Clinic, Temple, Texas.

ELIMINATE posting errors! Cut posting time by two-thirds, through the use of machine posting equipment. Purchase my two-year-old, Burroughs P602 Machine Posting equipment. Easy to use and fool-proof. Price, \$700.00. Terms can be arranged. Contact Key R, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

HOW WOULD you like to bring along just your physician's bag and take over a well-established and growing general practice in town of 35,000 when I leave for a residency next July 13th? Office space of 1,700 square feet can be leased. Equipment can be leased or purchased. Contact Key J, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED associate for well-established clinic in Northern Oklahoma community of 10,000. Prefer young general surgeon interested in diversified practice or young internist interested in wide practice. Salary and percentage open to negotiation. Contact Key L, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

EXPERIENCED GP, AAGP, age 43, desires relocation in partnership or group association. Solo practice for 14 years, only M.D. in small city. Experience includes industrial, traumatic and general surgery. Contact Key D, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED, ambitious, well-qualified physician to locate in Seneca, Kansas. Modern hospital. Productive agricultural area. Excellent outdoor activities. Inquire, Chamber of Commerce, Seneca, Kansas.

Should the Retarded Child Be Institutionalized?

THE ANSWER to this question is neither yes or no. We must realize that we are dealing with individuals and, as such, each decision must be based upon individual circumstances peculiar to the particular situation. The thought that an afflicted newborn baby should not even be taken home from the hospital is mentioned only to be condemned. Many physicians and nurses have given this advice routinely to parents of afflicted children but actually, this should apply to only a tiny fraction of the retarded. Those who require special medical care might be considered for immediate institutionalization. The others generally do better and reach a higher level of achievement if taken home and given the proper care, love and attention that they deserve.

It has been demonstrated that institutionalization in itself is retarding. This is so because it reduces the stimulation that the child receives. The total life situation outside an institution subjects the child to many more activities and varied stimuli, all of which aid in furthering the development, than are encountered in institutional surroundings. The earlier the child is placed in an institution the more noticeable this effect is. It requires a highly structural program in an institution to come even close to the stimulating environment of a good home and community life. The institution, at best, is a poor substitute for home care in a proper environment.

The solution to this problem is predicated on certain facts. First consideration is the welfare of the individual. If the socio-economic home situation is such that the afflicted child has a reasonable chance for satisfactory care and intellectual stimulation, he will benefit far more from this activity than by placing him in an institution. If the home situation is not compatible for love and proper intellectual stimulation, the parents should be persuaded to place the child in a foster

home where the environment is more conducive to proper care. If the parents are unwilling to consider foster home care, they should be counselled to place the child in a home for the retarded. This is not the best solution, but where the home environment is poor it perhaps offers the best solution.

Fortunately, about 75 per cent of the retarded are educable. Most of them will respond to training and special education, so that they never need be considered for institutionalization. If a special problem should develop, such as a behavior problem, it can often be handled on an outpatient basis or short term institutionalization.

No doubt some of the difficulties concerning placement of the retarded child stem from the fact that many people who are in a position to advise parents have not had extensive experience with the problem. Many physicians and nurses fail to appreciate the true magnitude of the decision. Further, many professional people do not appreciate what may be done for the retarded children, nor do they realize that it is almost impossible to predict what level of accomplishment can eventually be obtained with proper help. This is true especially in the case of mongolism. There is no way to determine how far these children may go. Many of them progress through the sixth to eighth grades. Certainly one cannot tell this at birth or even shortly thereafter.

Should the home situation be unsuitable for one reason or another, the parents should be counselled concerning the advisability of foster home care. There are many couples who would welcome a child and offer it love and affection, even though they know the child is retarded and may eventually need to be placed in an institution for special training and education. They would love and care for the child. This would be mutually helpful. It would give the child something he could never obtain in an institution, and at the same time, offer the foster parents a chance to fill a void in their lives. Such counselling is to be encouraged if the parents are adamant in their feelings that they won't

have the child around, or if the socio-economic status is such that the child would be better off in a foster home. Such parents should be helped to understand that the child needs emotional satisfaction and security, and if they are unwilling or unable to provide this, that they owe it to the child to allow someone else to provide this emotional satisfaction.

There are various pressures on the parents of a retarded child that stem from sources outside the home. Friends, neighbors, relatives, and various members of the medical and allied professions may make the parents feel that they are not doing all they should for their child if they don't put him in an institution "Where they can do so much for him." Actually, the institution usually can't do nearly as much for the child as loving parents can. Further, these parents are often not willing to part with their child, but feel guilty if they don't do everything for the child that others think should be done. One has only to see the look of happiness that many parents show when they are told by the staff at The Hissom Memorial Center that their child is retarded, but that he need not be placed in the institution until some particular indication develops. These people know that the advice and help they received is authoritative and directed toward the best interest of their child and the family situation. This can be of great comfort in the face of the many external pressures they have encountered previously.

Many times the retarded child so upsets the entire household and emotional life of the family that a satisfying parent-child relationship cannot be established. It is helpful if the child can be kept at home during infancy, but many times continued home care is beyond the ability of the family. All the help and guidance of a professional nature is needed to help these parents resolve their problem. While parents should be counselled to accept their responsibility concerning a retarded child, we know that there is a point where the emotional well-being of all may be adversely affected by keeping the child at home. Perhaps at this time the child should be institutionalized if the problem cannot be resolved otherwise.

Finally, the social stigmata should be removed that seem to be involved with having a retarded child. We should support these parents with an understanding of their problem and encouragement towards a satisfactory solution. The retarded child needs all the help we can give him. He will not be helped by abandonment. The family can profit by the knowledge that help is available outside institutions to aid them solve their problem and help their child achieve the highest level possible.

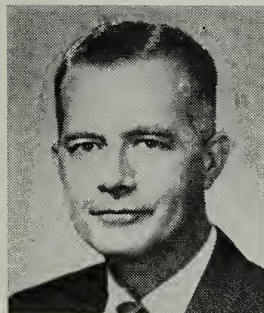
When special needs arise, institutional care and training under competent multidisciplinary teams is available now in almost all areas.—N. C. Gaddis, M.D. □

The Oklahoma Thoracic Society

WITH THIS ISSUE the *Journal* proudly begins a twelve-month series of scientific papers on the respiratory system sponsored by the Oklahoma Thoracic Society and written by its members. Progress in the understanding of respiratory physiology and advances in the treatment of certain pulmonary diseases will be covered.

Only a few decades ago pneumonia and tuberculosis were among the leading causes of death but after penicillin, streptomycin and other antimicrobial agents were discovered these ancient scourges faded into relative obscurity. Unfortunately emphysema, bronchiectasis, asthma and cancer (to name but a few) were lurking in the wings ready to take over the stage and this sudden prominence of "other" pulmonary diseases caught many physicians nearly off guard. Medical interest in new chest problems had lagged because of our apparent victory over the *great killers* and was compounded by the lure of more spectacular achievements among other organ systems which had been considered unimportant or hopeless by the last generation of physicians.

The Oklahoma Thoracic Society's praiseworthy *Journal* project is a case in point because it emphasizes the resurgence of concern with pulmonary problems. This series should be a valuable refresher for those who again appreciate what members of the Thoracic Society have known all along and it will be a welcome source for continued study to those who have never forgotten the importance of the pulmonary system. □



Shall we endorse "non-participation"?

This question is, in my opinion, the most serious problem of American Medicine today . . . and within the next few months we must offer Oklahoma's answer. The decision obviously requires careful deliberation, a measure of soul-searching, a knowledge of the facts, and perhaps a little

clairvoyance! For, a wrong answer could be devastating to the future of medicine and productive of an impact which would be felt by every doctor in the State.

The decision cannot be a hasty one . . . nor can it be tempered by emotionalism, anger, political loyalty, or personal pride. This time we must seriously ponder a question of what is good for Medicine . . . or, more important, what is good for our patients!

It is no secret that I vigorously opposed the non-participation resolution which was considered by our House of Delegates at the annual meeting in May. I did so for several reasons. The resolution was, in my opinion, premature. The Mills Bill, H. R. 6675, is not yet the law of the land; although no one seriously questions that it will pass before mid-Summer. The regulations governing the implementation of the law have not yet been released by the Secretary of Health, Education, and Welfare; although no one seriously questions that they have already been written. The language of the law gives wide latitude to the Secretary; and, quite frankly, I am more concerned about the nature of the regulations than I am about the law itself. If, however, we are to endorse non-participation . . . and at the same time maintain some degree of support and respect from the American people . . . we cannot base our stand on generalities or on apprehensive, but not necessarily accurate, self-interpretation of certain clauses in the law. If we would claim that this law does indeed prejudice the free practice of medicine, then we must be able to point factually to a regulation which confirms our allegations. We cannot do that now with undeniable certainty. At this time we can only signal a phrase and offer a prophetic admonition of what *might* happen! As an old debater,

I submit that this is not good debate tactics!

In addition, at the time of the Annual Meeting, I felt that the climate in Oklahoma was not right for any action which could be construed as a "strike." The action of the Oklahoma Education Association, and the repercussions thereto, offered vociferous testimony to the wisdom of such an action at this time. A threatened strike by Doctors against Senior Citizens would hardly have been applauded by an already outraged Oklahoma public. Of course, you and I know that no "strike" was proposed. The resolution, in itself, guaranteed that we would continue to take care of people . . . just as before . . . but we would simply refuse to deal with a governmentally directed third party. Unfortunately, few Oklahoman's would read the fine print in the sensational news stories which would have grown out of our action. The image of medicine would have joined that of educators in suffering irreparable damage!

The issue is not dead. The House of Delegates directed that a special meeting of the House be called, following passage of the Bill and publication of the regulations, for the express purpose of reconsidering a non-participation resolution. It is IMPERATIVE that each of Oklahoma's nearly-2000 physicians become thoroughly conversant with both the law and the regulations prior to that meeting. Each of us must then make a decision as to non-participation, based upon this question: Does this program interfere with the Doctor-Patient relationship or the free practice of medicine, and will it contribute to the deterioration of medical care in this country. If the answer is in the affirmative, I will reverse my position . . . not with apology . . . but with the clear pronouncement that the then-existing regulations have made practice under the law an intolerable situation.

But, I will make that decision on FACT . . . and so must you. For, when the stand is made . . . one way or the other . . . we must then be prepared to defend it . . . privately and publicly.

It is imperative, therefore, that each physician study . . . then inform his elected Delegate as to his personal feelings. Only in this way can the House of Delegates offer a representative decision based upon the knowledge, wisdom and concern of free-thinking men! □

Rex Kenyon

Epidemiological Approach to Maternity Health Needs

THOMAS C. POINTS, M.D., Ph.D.

An epidemiological study of maternity health needs undertaken to determine the services necessary for comprehensive care of all mothers and infants.

CHILDBEARING IS usually a normal physiological process. Accordingly, the main emphasis in maternity care should be on maintenance of the normal. However, complications do occur occasionally and can result in grave consequences to the mother or the child. Often these complications can be prevented or the severity reduced by proper prenatal care.

The objectives of obstetrical care are: (1) To produce healthy children and (2) to maintain good health of the expectant mother so that she is capable of caring for her offspring.

Possibly the greatest tragedy in this world is the loss of life at its very beginning. Man's progress toward civilization has been closely intertwined with his development of methods to protect life.

In 1958 three-fourths of all neonatal

deaths occurred during the first three days of life and slightly over one-half of these deaths occurred in the first day of life. These facts indicate that the major share (up to 80 per cent) of neonatal deaths are closely related to obstetrical care and services. Furthermore significant reduction in these deaths will come largely from improvement in maternity care.

Maternal and infant mortality rates are used frequently to determine the status of public health in a community. Progress in the field of maternal and child health, as far as death is concerned, has been most dramatic in the reduction of maternal deaths. Improved standards of obstetrical care directed primarily toward saving mothers' lives have ushered in an era of reduced fetal and neonatal loss, but less prominently than in maternal mortality reduction.

Both fetal and neonatal deaths had to be combined for clarity and reliability in determining a single index that could be used to compare these death rates. Fetal and neonatal deaths may be influenced by the same factors and thus they are not mutually exclusive. It is not always apparent in a given instance whether a fetus has been born alive or stillborn. To take into account possible variations in judgment as to the state of the fetus at delivery, a single figure is of most

value. Perinatal death rate has been selected as the index of choice because it picks up these variations regarding actual conditions of the fetus at birth. The Maternal and Child Care Committee of The American Medical Association defined Perinatal Mortality II as the death of fetuses weighing 501 grams or more (approximately 20 weeks' gestation) and all deaths of newborn infants regardless of birth weight, occurring in the first 28 days of life (full neonatal period). This is the definition used for this project and the perinatal mortality rate II was calculated by the following formula:

$$\frac{\begin{array}{l} \text{Fetal deaths 501 grams and over plus} \\ \text{All neonatal deaths (under 28 days)} \end{array}}{\begin{array}{l} \text{Fetal deaths 501 grams and over plus} \\ \text{All live births} \end{array}} \times 1000$$

The basic principle upon which control measures for perinatal mortality are founded is that the fetus is the product not only of its own internal constitution but also of its maternal and uterine environment; likewise, in most instances, if this environment is altered favorably either before conception or during pregnancy, improved perinatal salvage will be the inevitable dividend. Thus the solution of the problem of perinatal production is much more complicated than the mere acquisition of new knowledge concerning the classic art of obstetrical deliveries.

Since 95 per cent of all deliveries in the United States take place in hospitals, many factors affecting perinatal mortality are related to events and circumstances within the hospital. On the other hand some of the solutions for perinatal mortality will be found in identifying and measuring other factors one might call exogenous, in other words, those factors beyond the control of the hospital phase of actual labor and delivery as contrasted with endogenous factors affected by the quality of hospital care.

These exogenous factors have to do with prenatal care with special attention being provided to that group of patients who are identified by epidemiological means as providing the highest incidence of premature births and perinatal mortality. An epidemiological investigation is a fundamental public health method and can be used in studying this problem.

This study was done on all deliveries occurring at The University of Oklahoma Med-

ical Center Hospital from July 1, 1959 through June 30, 1961.

At the beginning of this project it was decided to test the effect exerted on prematurity and perinatal mortality, both individually and collectively, by race, marital status, parity and residence in association with the time prenatal care began. The data were collected within 24 hours following delivery and if necessary the patient was interviewed to obtain accurate information. The data were then placed on punch-cards. The statistical methods used were chiefly chi square.

The study had certain features of significance at the outset:

1. All except a very small number of patients were "service type"; thus, most of the patients were in the same socio-economic class.
2. All service patients received the same type of care during labor and delivery by the house staff. We assume the following proposition to be true: By using the same procedures and supervision, there was no great variation in the obstetrical care during actual labor and delivery.

ANALYSIS OF DATA

From 12:01 a.m., July 1, 1959 through 12:00 p.m., June 30, 1961, there were 4,658 women delivered on the obstetrical ward at

Thomas C. Points, M.D., Ph.D., received his medical degree from the University of Oklahoma School of Medicine in 1941 and his Ph.D. in 1964. In addition to his private practice he is Associate Clinical Professor of the Department of Gynecology and Obstetrics and Assistant Professor of Preventive Medicine and Public Health at the O.U. Medical School.

He is a member of the American College of Obstetricians and Gynecologists, the Central Association of Obstetricians and Gynecologists and the American Public Health Association.

Doctor Points is an Alternate Delegate to the American Medical Association and is a member of the Maternal and Child Care Committee of the American Medical Association.

Health Needs / POINTS

The University of Oklahoma Medical Center Hospital. These women delivered 4,708 babies (50 women had twins). Thirty-eight women were delivered by private physicians and are not included in this analysis, consequently the analysis concerns 4,620 women.

The patients were from 57 of the 77 counties in the State of Oklahoma. There were 3,628 women who lived in Oklahoma County.

The Negro race accounted for 2,365 births, or 51.2 per cent. There were 2,038 white births, or 44.1 per cent. The Indian population had 195 births or 4.2 per cent. All other ethnic groups constituted 0.5 per cent of the total or 22 births.

Table 1 shows the percentage distribution of these patients by the time, if any, prenatal care began with marital status and race. Erratic care is defined as one visit during the first six months of gestation, and at most only one other visit before admission to the labor ward.

The married group, whether white or Negro, began prenatal care earlier in their pregnancy than did the unmarried. In addition, there was a greater percentage of unmarried white women and Negro women without prenatal care. A smaller percentage of white patients had no prenatal care, a higher percentage began their prenatal care in the first trimester and consequently a lower percentage of this group began prenatal care in the third trimester of gestation than did the Negro patients. There was no significant difference between married white women and unmarried Negro women as to the time prenatal care began.

Table 2 is the premature rate per 100 births by prenatal care received, marital

status and race. The prematurity rates for Negroes was highest with 37.7 per cent in the no-prenatal-care group and a statistically significant difference between married (35.4 per cent) and unmarried (40.2 per cent) was shown.

Table 3 is perinatal mortality rate per 1,000 births by prenatal care received and race. The perinatal mortality rate for no-prenatal-care was 48.5 per 1,000 births for whites and 132.1 per 1,000 births for Negroes with the total rate 81.7 per 1,000 births. These rates were significantly higher than those with prenatal care. However, no statistically significant difference appeared in the rates for patients who had received at least some care regardless of when it began.

SUMMARY

There was a significant difference for marital status of this group of patients in that 85.5 per cent of the white women were married, while only 60.2 per cent of the Negro women were married.

A smaller percentage of white patients had no prenatal care, a higher percentage began their prenatal care in the first trimester and consequently a lower percentage of this group began prenatal care in the third trimester of gestation than did the Negro patients. There was no significant difference between unmarried white women and unmarried Negro women as to the time prenatal care began.

The premature rate was highest for those patients who did not have prenatal care. The premature rate was not statistically different whether the patients had prenatal care beginning the first, second, or third trimester of pregnancy.

Table 1.

Births—University of Oklahoma Medical Center, Distribution by Prenatal Care Received, Marital Status and Race. July 1, 1959-June 30, 1961.

	All			White			Negro		
	M	Un M	Total	M	Un M	Total	M	Un M	Total
No Prenatal Care	6.0%	9.7%	7.0%	4.9%	7.7%	5.3%	6.0%	8.7%	7.1%
First Trimester	17.7	13.1	16.4	20.3	12.5	19.2	13.6	13.3	14.7
Second Trimester	37.1	34.1	36.3	36.7	38.0	36.0	38.6	35.2	37.3
Third Trimester	37.4	40.1	38.3	36.0	39.7	36.6	38.5	40.5	39.3
Erratic Care	1.8	2.4	2.0	2.0	2.1	2.0	1.2	2.3	1.6
Total Number	3185	1196	4381	1657	287	1944	1356	885	2241

Table 2.

Births—University of Oklahoma Medical Center, Premature Rate per 100 Births by Prenatal Care Received, Marital Status and Race. July 1, 1959-June 30, 1961.

	All			White			Negro		
	M	Un M	Total	M	Un M	Total	M	Un M	Total
Prenatal Care Unknown	19.9	14.9	18.4	22.1	No Cases	22.1	11.9	18.5	18.5
No Prenatal Care	24.2	30.2	25.5	17.3	18.2	17.5	35.4	40.2	37.7
First Trimester	11.0	10.2	11.0	8.3	2.8	7.8	16.1	12.7	14.9
Second Trimester	10.5	12.7	11.0	8.9	2.8	8.0	12.2	15.1	13.2
Third Trimester	8.5	10.1	8.9	7.9	13.2	8.7	9.8	10.3	10.0
Erratic Care	8.6	17.2	11.4	5.9	33.3	10.0	11.8	10.0	10.8
Total	14.2	16.2	14.9	9.4	8.5	9.3	13.5	15.1	14.2

The overall perinatal mortality rate was highest in the "no-prenatal-care" group followed by those who started their prenatal care in the first trimester and next by those in the second trimester group. The lowest perinatal rate was in the third trimester group of patients.

The perinatal mortality rate was higher for the Negro patients than for the white patients irrespective of the time prenatal care was begun.

DISCUSSION

An effort has been made to assess by epidemiological approach the relative importance of the time prenatal care began in relation to race and marital status. These factors are not new, but in view of the fact that all patients were from essentially the same socio-economic class and hypothetically received the same type and quality of care through labor and delivery, it was significant that the time prenatal care began gave the results it did.

There was a higher incidence of prematurity and perinatal mortality if the patient

did not receive prenatal care. However, there was no statistically significant difference in the prematurity rate between those who had prenatal care beginning in any of the three trimesters. Thus, even a small amount of prenatal care reduces these complications but it makes no difference when care begins. These results could signify that the prenatal care which was received was "adequate" rather than "good."

Another explanation could be that patients who have troubles report early; others who do not experience complications report later in order to make fewer visits and yet be eligible for admission to the labor suite. Further investigation is needed to clarify as much as possible the relationship between the kind and amount of care in relation to prematurity and perinatal mortality.

Generally perinatal mortality follows somewhat the same pattern as does prematurity. In an epidemiological approach in a small community of obstetrical patients, the premature rate alone can be utilized as an indicator of possible need rather than obtaining a larger number of cases in order to calculate the perinatal mortality.

Table 3.

Births—University of Oklahoma Medical Center Perinatal Mortality Rate per 1,000 Births by Prenatal Care Received and Race. July 1, 1959-June 30, 1961.

	All	White	Negro
Prenatal Care Unknown	60.1	85.1	564.5
No Prenatal Care	81.7	48.5	132.1
First Trimester	44.4	42.9	45.6
Second Trimester	37.1	39.0	33.5
Third Trimester	24.4	12.7	33.0
Erratic Care	57.5	No Cases	54.0
Total	38.1	32.4	43.1

CONCLUSION

An epidemiological study such as this can ascertain the changing needs of mothers even for a relatively small number of patients. Such studies are a necessity for local interpretations of services required to insure comprehensive maternity and newborn care for all mothers and infants. □

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NEW MEMBERSHIP DIRECTORY SCHEDULED FOR PUBLICATION

The 1966 edition of the Oklahoma State Medical Association's Membership Directory will be issued in the early Fall of 1965, according to OSMA Executive Secretary Don Blair.

As in the past, the publication will contain both an alphabetical listing of the entire association membership and a breakdown of the membership by county of residence. The alphabetical listing will include such information as the physician's age, address and telephone number, school and year of graduation, and specialty or subspecialty.

Questionnaires will be mailed to all association members this Summer, Blair said, in order to obtain the most current information possible. One complimentary copy will be mailed to each member, and additional quantities may be purchased at one dollar per copy.

Total Rehabilitation of the Cleft Palate Patient

D. WILLIAM FOERSTER, M.D.
THOMAS D. CRONIN, M.D., F.A.C.S.

Technics are now available which in a majority of instances can assure the cleft palate patient of normal speech as well as a normal or near normal upper jaw.

ONE NEED not go back very far into the historical background of cleft palate surgery to discover that this problem was considered primarily a tissue void, needing only to be filled or partially filled, in order to restore function. It soon became apparent, however, that much more was involved than simple closure because this yielded almost uniformly poor results. Thus, with recognition of the highly complex function of the palate, a myriad of surgical procedures evolved with the intent of assuring a mobile palate of sufficient length to obtain proper velopharyngeal closure and normal speech. This, in turn, elevated the cleft palate patient to a higher plateau of restoration on which he has remained until the last few years. The recent advent of new concepts and technics has now raised standards to a higher level. This plateau might be called one of total re-

habilitation and is a subject about which we will be concerned in this paper.

In order to understand the concept of total rehabilitation, it is necessary to put forth a set of criteria that are to be satisfied in order to achieve the degree of excellence that total rehabilitation implies. At all times, however, we must remember that each patient presents an individual problem so the goals to be reached and the course of action to be taken will vary somewhat from case to case. Nevertheless, certain basic standards must be obtained and criteria satisfied that are common to all such varied and complex problems.

The first set of principles concerns those cases in which there is a cleft lip-nose complex as part of the overall problem. It is essential to reconstruct as perfectly as possible the upper lip and nose by utilizing a repair technic designed to preserve the cupid's bow and maintain the integrity of the vermilion-skin border in faultless continuity across the repair. Furthermore, this repair must achieve a high degree of symmetry and balance of both lip and nostril, as compared to the uncleft side; yet doing no harm to the potential growth of these structures, so as to maintain proper relationship into adulthood.

Secondly, it is essential to align as early as possible the palatal segments into proper occlusal relationship with the lower jaw and

to fix these segments permanently by bony and soft tissue continuity. Collapse, retrusion or drifting of the palatal arch is thus prevented or corrected, and the necessity for later orthodontic correction is minimized. To obtain this arch stability, it is necessary to close the anterior palate, alveolus and floor of the nose, utilizing a bone grafting technic.

Next the palate must be allowed time to grow before a "push back" closure of the remaining posterior palate is accomplished. A push back operation done too early may result in growth retardation or collapse of the arch from scar contracture. Too long a delay in closure, on the other hand, may result in retardation of speech as well as articulation problems. Hence, the time of closure will depend upon the rapidity of palatal growth balanced against how early the patient attempts to speak. It is probably better to err slightly on the side of possible speech retardation than to do a push back procedure too early and risk contracture and retrusion of the maxillary arch. When the posterior palate is closed, however, meticulous attention to detail and minimization of trauma is essential. The palate must be supple, mobile and long enough for velopharyngeal closure. In nearly all cases a pushing back of the posterior palate component will be necessary. Furthermore, this procedure should be designed to utilize some means of mucous membrane coverage of the raw nasal surface of the pushed back portion of the palate, to prevent contracture and shortening which, of course, would defeat the purpose of the lengthening procedure.

Fourthly, maintenance of proper occlusion of both the deciduous and permanent teeth is desirable with necessary orthodontic adjustments as required. In the past, most orthodontists, knowing little about cleft palates and often confronted with severe deformities resulting from improper surgery, understandably showed little enthusiasm for these cases and postponed treatment until ten or more years of age. Interested orthodontists now accept the four-year-old child who may have a contracted arch and with appropriate expansion devices the arch usually can be corrected within two to three months, following which the plastic surgeon



Figure 1. Complete unilateral cleft lip with nasal deformity.

can do a bone graft to hold the arch in its new position.

Speech should be allowed to develop as normally as possible, trying to achieve occlusal relationships and complete palatal closure before major speech patterns have developed. Speech training may be started when the patient is old enough to cooperate if such training becomes necessary. In most cases, however, no formal training is necessary.

Surgical adjustment of the nose component, if needed, can be done prior to beginning school. Complete rhinoplasty should not be done however until after puberty.

Continued follow-up and evaluation of the patient's progress is essential. In a few cases, additional surgical procedures, such as posterior pharyngeal flap, pharyngeal wall implants, scar revisions, etc., can be done at



Figure 2. Complete unilateral cleft of palate and alveolus. Palatal segments are in good alignment.

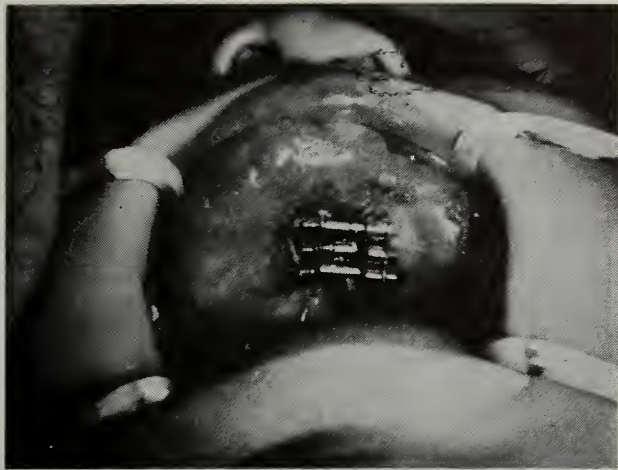


Figure 3. Acrylic plate used to maintain palatal segment alignment following lip repair.

the proper time should the need arise. Also the help of other specialty services (psychiatry, eye, nose and throat, dental, etc.) can be requested, if necessary. The more perfectly the plastic surgeon repairs the lip and palate, the less need there will be for other specialties.

Conspicuously absent from this set of standards is the so-called "team approach" to cleft palate rehabilitation. This is not to imply that team approaches have not been helpful, because they are, but rather that the modern plastic surgeon now has the tools and know-how to carry out the major portion of the cleft palate patient's care, delegating at the proper time any ancillary services as needed. This, of course, is quite advantageous to the patient for he is responsible to only one "authority," rather than to a multitude of individuals who often are in



Figure 4. Occlusion of upper and lower jaws three months after lip repair. Patient now ready for bone grafting to solidify upper arch.

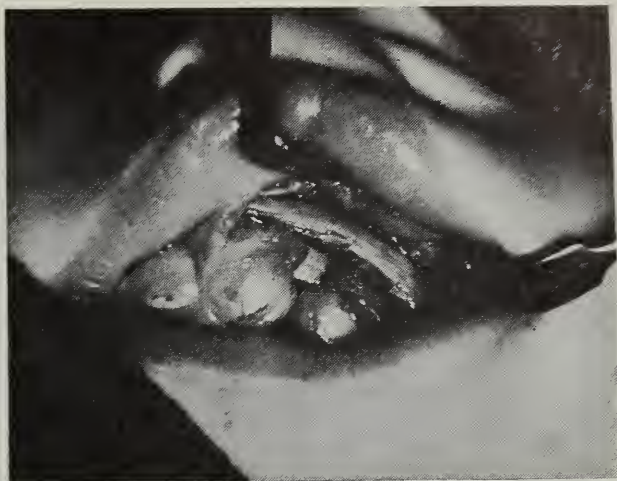


Figure 5. Onlay split rib graft and bone chips in place during closure of anterior palate and alveolus.

conflict over patient care ideas. Furthermore, the patient still has the benefit of needed specialty skills at appropriate times without the family being over-burdened or over-powered from the onset of their child's lip and palate problem.

Now that the principles of total rehabilitation have been discussed, let us see how they are accomplished. We will present a typical case history to illustrate this technic.

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Since graduating from the University of Texas Medical Branch in 1932, Thomas D. Cronin, M.D., has been certified by the American Board of Plastic Surgery. He is a Clinical Professor at Baylor University College of Medicine and Associate Professor at the University of Texas Postgraduate School of Medicine.

Doctor Cronin is affiliated with the American Association of Plastic Surgeons, the American Society of Plastic and Reconstructive Surgery, the American Board of Plastic Surgery and the American Cleft Palate Association. He is a recent past-president of the American Association of Plastic Surgeons and a member of the Board of Directors of the American Association of Plastic Surgeons.

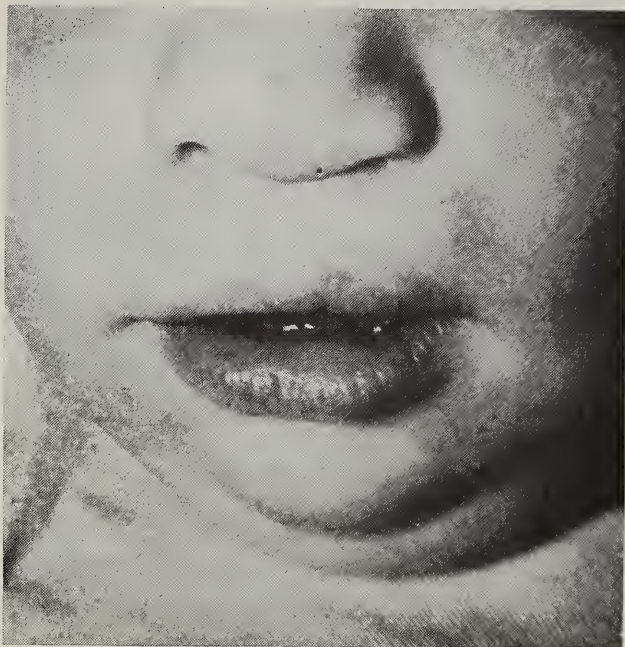


Figure 6. Appearance of patient five months after lip repair and two months after bone grafting. Acrylic plate no longer necessary.

Usually the sequence of surgical procedures will be as in this case; however, individual variations will occur as the case dictates. Figures 1 to 8 illustrate the case of a child with a complete, unilateral cleft lip and palate. In general, these children are seen in the office as soon as they leave the hospital. Immediately following the initial examination and evaluation, an impression of the palate is made to serve as a study model. The relationship of the palatal segments to each other are evaluated and an appropriate

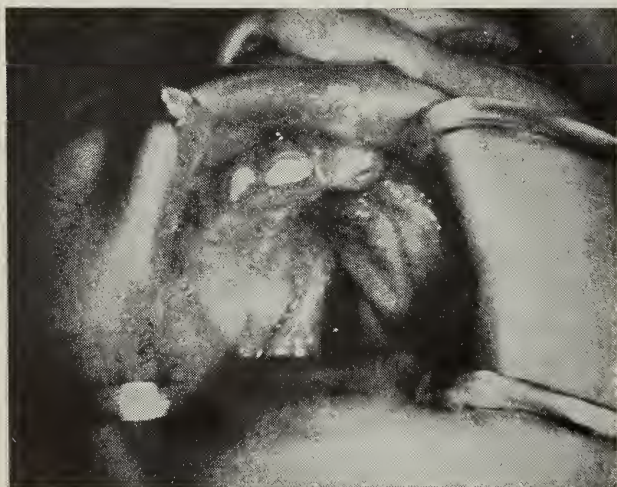


Figure 7. Palate and alveolus two months after anterior palate repair and bone grafting. Posterior palate remains unclosed.

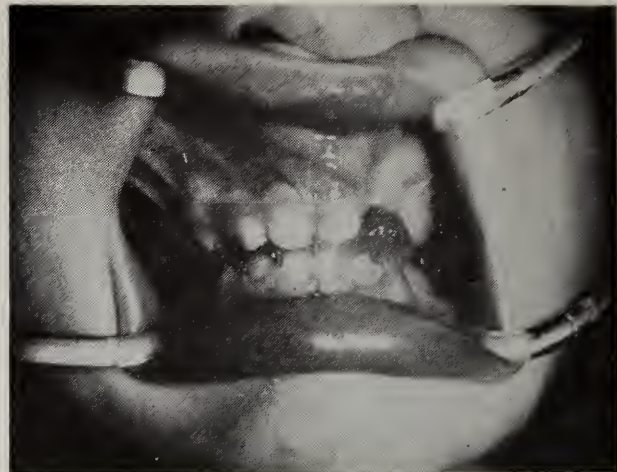


Figure 8. Occlusion 10½ months after bone grafting. Note proper relationship of mesial incisors and cleft segment.

acrylic plate is constructed, to be worn continually by the patient. This plate serves to control the segments by keeping them in proper occlusal relationship, if such is the case, or to expand the arch if it is collapsed. Figures 1 and 2 illustrate the lip and palate deformities. Note the complete cleft of the lip and alveolus with flaring of the nasal ala in figure 1. In figure 2, the complete, unilateral palatal cleft is seen. In this case, the palatal segments are in good alignment and the plate will serve only to maintain this relationship until the anterior palate repair, with bone grafting, solidifies the segments.

Less than one month after the initial visit the lip was repaired by the Cronin modification of the Tennison method (figure 6). This technic preserves the cupid's bow and gives a balanced and symmetrical upper lip. Note the integrity of the vermillion-skin border across the repair. This child's lip was not repaired until six months of age because he was not brought in until over five months of age. Usually the lip is repaired at six weeks to two months or when the patient weighs ten to 12 pounds.

Figure 3 illustrates the acrylic plate in place two and one-half months after the lip repair. It has now been worn for three and one-half months. Note the metal jack-screw used in regulating the size of the plate so that it can be expanded to meet the demands of a growing palate, or if necessary, to expand the palate at a greater rate to correct a collapsed condition. Figure 4 demonstrates occlusion of the upper and lower jaws. Because of this very good relationship, bone

grafting with anterior palate repair, was done three months after the lip repair. Figure 5 shows the onlay, split rib graft, crossing between the alveolar gap. Bone chips and wedges are also used to fill out the remaining defect prior to repair of the soft tissues.

Figures 6 and 7 are the appearance of the patient at age 11 months, two months after anterior palate repair with bone grafting. The acrylic plate is now removed, as roentgenograms show union of the graft to each side of the bony palatal segments. In figure 8, note the complete closure of the anterior palate, alveolus and floor of the nose.

The posterior palate is now allowed to grow prior to push back repair. Figure 8 shows the occlusion at 19½ months of age. The proper relationship is still maintained. Note the closed alveolar process.

At 21 months the patient is returned to surgery for Cronin-type push back repair of the posterior palate. Not only is the remaining cleft closed, but the entire soft palate is lengthened by 10 mm.-12 mm. and the raw nasal side of the pushed back palate is covered with nasal mucosal flaps to prevent contracture. A soft, mobile, long palate is the result of this procedure, and when the patient was last seen at 27 months, his speech was progressing in a normal and satisfactory manner.

SUMMARY

In summary, total rehabilitation of the cleft palate patient is a dynamic and flexible process, beginning almost at birth and continuing throughout childhood, with the greatest concentration of effort in the first two years. Essential elements consist of symmetrical and balanced lip repair, with preservation of the cupid's bow, control of palatal segments by maxillary orthopedics until bony continuity is established by grafting, assurance of adequate soft palate length and mobility to achieve complete velopharyngeal closure, and most important, continued follow-up and repeated evaluation to assure proper sequence of repair and rehabilitation.

ACKNOWLEDGMENT

Appreciation and credit to Doctor John Alexander and Doctor Raymond Brauer for their contributions in the surgery and care of the patient presented in the case history. □

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SUBSTITUTE FOR MEDICARE?

On Tuesday, May 18th, Senator Russell B. Long (D) La., Senate Whip, introduced what he announced to be "a substitute for the two health care plans contained in H.R. 6675, the House-passed Social Security Amendments of 1965." The Long amendments (No. 188), cited as the two most telling criticisms of the health insurance provisions of the bill: (1) That it fails to allow for the difference between those individuals who can meet their own needs and those who need assistance, and (2) That it does not protect against long, sustained illness . . . In his Senate floor speech, Long said, "We have a duty to see that these scarce medical care resources are distributed in a rational manner." . . . Under

the Long proposal, the Social Security tax increase would be the same as now provided in H.R. 6675. All seniors over 65 (except non-citizens with less than ten years' U.S. residence) would be blanketed in. Benefits would be the same as in the parent bill except there would be no durational limitation in hospital or nursing home stays . . . The deductible would vary from \$40 per year to a maximum of \$1000 per year depending on income (i.e., individual with \$1000 annual income would be subject to \$100 deductible; \$3000 income would require a \$400 deductible). In addition to the deductible, the amendment provides for a uniform ten per cent coinsurance to be paid by the individual (or public assistance program) . . . □

COUGH

C. M. HARVEY, M.D.

A study of the common cough, its causes, complications, mechanism and effects.

INTRODUCTION

THOUGH NOT A social grace, cough is often benign enough to be acceptable in the best of company. Like the sneeze and the scratch, it may even bring pleasure. Its acceptance as a natural or "normal" phenomenon, even when it becomes persistent, has been considered a misconception so prevalent that it warrants a nation-wide educational program. The deep inhalation of burning leaves from the tobacco plant, practiced in the extreme by millions of humans all over the world in this century, undoubtedly has accounted for more coughing, both mild and severe, than all other causes combined; and since the smoking is acceptable, so is the cough which it engenders. Also, the failure of mankind to develop a preventive or adequate therapeutic approach to the viral respiratory infections, has forced us to accept a certain amount of coughing in private and in public, without undue anxiety. But at some degree of severity or duration, cough must be considered in a different light by

the victim and his physician; it demands explanation or alleviation. Conversely, its absence or ineffectiveness may also become a medical problem.

PHYSIOLOGY

According to the dictionary, to cough is "to expel air from the lungs suddenly and usually in a series of efforts with an explosive noise made by the opening of the glottis." The stimulus, which most commonly arises in the larynx, trachea, or larger bronchi (but which may arise from the external ear canal, pharynx, or pleura) is conveyed by the afferent fibers of the vagus to the medulla. Section of the vagus below the level of the recurrent laryngeal nerve and above the level of the pulmonary plexus abolishes cough produced by touch of the bronchoscope or electrical stimulation of the bronchial mucosa on that side.¹

Stimuli from the ear canal are conveyed through Arnold's nerve, the auricular branch of the vagus. In the cat, neuro-physiologists have identified an inspiratory center in the rostral one-half or two-thirds of the reticular formation, overlying the olivary nuclei beneath the caudal one-third of the floor of the fourth ventricle. An expiratory center has been located in the reticular formation dorsal to the inspiratory center. Descending tracts in the anterior columns connect with motor neurons of the phrenic and intercostal nerves

Produced under the auspices of the Oklahoma Thoracic Society.

in the cervical and upper dorsal segments of the spinal cord.²

Whether there is a smaller center which more precisely regulates or coordinates cough is still a point of speculation, but H. L. Borison has presented evidence for such a locus in the cat which, though not nuclear in structure, is a part of the dorsolateral reticular formation of the medulla adjacent to the rootlets of the vagus and glossopharyngeal nerves.³

The effective cough involves not only the intercostal muscles and diaphragm which forcibly squeeze the thoracic contents and the muscles of the glottis which hold back the air and release it suddenly, but virtually all muscles in the body indirectly, when they brace to support posture. The abdominal muscles and sphincters are particularly important in this respect. Failure of these bracers to function in a perfectly timed and coordinated manner may result in shearing rib fractures,⁴ herniation of a nucleus pulposus, and such unusual events as rupture of the rectus abdominis muscle,⁵ or rupture of an inferior epigastric artery!⁶

Ross, Gramiak, and Rahn, at the University of Rochester, studied the human cough by recording simultaneously intra-thoracic pressures and airflow rates, along with high-speed cine-fluorographic records of changes in the tracheal shadow. Remarkably constant patterns were found in normal subjects. During an initial inspiratory phase, lasting 0.65 seconds, there is an intake of 2.5 liters of air. The glottal closure follows, lasting 0.2 seconds. With the explosive exhalation, lasting 0.5 seconds, the same volume is expelled. The maximum inspiratory flow rate is three to four liters per second, and the maximum expiratory flow rate five to six and five-tenths liters per second. Tracheal compression, which can occur to the extent of one-sixth of the normal cross-sectional area and which is maximal during the peak expiratory flow, causes the generation of linear velocities of 28,000 cm. per second, nearly 85 per cent the speed of sound! Verification of the compressibility of the trachea was provided by observation of tracheas removed at autopsy and exposed to air pressure while suspended in bottles. Humans are therefore equipped with a very effective mechanism for "blasting" secretions up to the pharynx. These au-

thors could find no evidence for any "wave-like" motions in the lipiodol-filled bronchi during cough.⁷

Because the third, fourth and fifth divisions of the bronchi, and the bronchioles are relatively insensitive in initiating the cough reflex, ciliary action is extremely important in moving secretions high enough to be removed by coughing. Probably the rhythmic alteration of bronchial length and diameter with respiratory movements also plays a role.

CAUSES

The stimulus to cough can be any material present in sufficient quantity within the sensitive portion of the respiratory tract, produced from within or inhaled from without, or a mass external to the tract sufficiently large or strategically enough located to cause pressure or torsion. The irritating material may be gaseous, liquid, solid, solids or liquids suspended in air (such as smoke), or specifically sensitizing substances (allergens) which provoke an inflammatory response. Inflammation produced by viruses and other micro-organisms, either inhaled or transported to the mucous membrane through the lymphatics or blood, may cause cough without producing increased glandular secretions (as the dry catarrh of viral respiratory infections). Whether bronchospasm is a cause of cough, or cough causes bronchospasm is a moot point; they often occur together. The cough associated with heart failure may be due to transudate reaching the bronchi from the alveoli or to angulation or compression of the left main bronchus by an enlarged left atrium or left ventricle. Cough as a manifestation of heart failure may appear before these phenomena are obvious, and when this

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occurs the nature of the stimulus is not clear.

Aspiration of a foreign body usually provokes a paroxysm of coughing initially, but soon the cough may subside. The silence may be misleading and unless the aspirated object is opaque to x-ray, or localized wheezing is heard, the diagnosis may be missed. Many years ago Chevalier Jackson noted during bronchoscopy without anesthesia that a tolerance to the scope quickly develops and is lost only if new areas of mucosa are touched. If the bronchoscope is removed for five minutes, then re-inserted, sensitivity is found to be restored. He found individual variations in the degree of sensitiveness. Decidedly less cough was produced when the smaller bronchi were touched than when the trachea or larger bronchi were stimulated.⁸

Cough enforced and aggravated by habit is a common nervous manifestation. A greater problem for the physician is the compulsive of hysterical patient who subconsciously selects cough as a major physical symptom. Repeated hard coughing for weeks or months may itself cause irritation with redness and swelling of the laryngeal and tracheal mucosa, which assists in perpetuating the symptom. When the evidence is against organic cause, psychiatric consultations may provide positive evidence for psychogenic cough.

EFFECTS OF COUGH

It is conceivable that death might result from coughing too vigorously; certainly many attacks of unconsciousness during coughing have been observed since Charcot described tussive syncope in 1876. Sharpey-Schafer, in 1953,^{9, 10} and McCann, in 1949,¹¹ believed that such dramatic events are of circulatory origin. The opinion was apparently based on the fact that high intrathoracic pressures (up to 300 mm. Hg.) are developed during violent coughing attacks, sufficient to impede venous return, and that peripheral arterial pressure often falls at the end of the paroxysms. Without measurement of cardiac output or change in cardiac output, this thesis could not be proved. McIntosh, Estes, and Warren, in 1956,¹² found that intra-abdominal and intra-thoracic pressures are transmitted to the cerebro-spinal

fluid compartment without delay. They postulated that this force is sufficient to "squeeze" blood from the vessels of the cranium, both arteries and veins, to regions not subjected to increased extra-vascular pressure, such as the skin and muscles of the trunk, head, neck and the extremities. (These areas would also receive blood from the compressed thorax and abdomen.) Such an event would render the brain essentially bloodless. Later, Kerr and Eich¹³ pointed out that syncope can occur with a single sudden cough and actually observed this in a patient. A concussion-like effect, produced by the instantaneous transmission of the high intra-thoracic and intra-abdominal pressures to the cerebro-spinal fluid, was considered a more likely cause of the syncope. They noted the similarity of electroencephalographic changes recorded during tussive syncope to those accompanying concussion, and saw the syncope as "a sudden depolarization of cerebral cells" or a "local transient paralysis of neurones." McIntosh, *et al.*,¹² described myelograms showing medial displacement of nerve roots, decrease in the size of the sub-arachnoid space and increase in the epidural space during cough. The latter was thought to be due to engorgement of the epidural veins by blood shunted from the abdomen and thorax. Movement of loose fatty and areolar tissue, and the spinal nerve roots into the spinal canal was also considered to play a role in compressing the sub-arachnoid space.

Tussive syncope occurs rarely in women, probably because they do not permit themselves to cough with the reckless abandon believed less unbecoming by male coughers. The typical patient with this condition eats too much, drinks too much and smokes too much. The history is not often spontaneously related by these individuals. Studies have shown that they are capable of coughing more forcefully and can continue the cough longer than normal subjects.¹²

Useless coughing is unpleasant and disturbing to the patient and to others. It spreads infection by droplets from lobe to lobe, lung to lung, or from person to person. It may lead to undue fatigue, exhaustion, loss of appetite, and if chronic, to loss of weight. Hernia may be produced or aggravated by coughing. Conjunctival hemorrhages, head-

ache, pulmonary hemorrhages, and even rupture of esophageal varices may occur. Injuries to muscles and bones have been mentioned already. Cough begets more cough and causes reflex bronchospasm. Mediastinal emphysema may result from hard coughing.

Conjecture is more often heard than recorded that chronic coughing may produce or aggravate emphysema by rupturing alveolar walls. Certainly there are instances in which hard coughing seems causally related to the rupture of lung blebs or bullae with resulting spontaneous pneumo-thorax. In an interesting note, Fisher¹⁴ told of a woman who heeded his admonition at age seventy to suppress her coughing voluntarily. He considered her benign course in the subsequent nineteen years evidence that progressive emphysema might often be due to continued, chronic cough and that suppression of cough might prevent progression of the disease. Certainly his advice "to make a small exploratory cough hourly, and if no mucus is present, not to cough further," was good. He noted that cough can precipitate bronchospasm and that a tickle in the trachea is controlled more effectively by sudden quick inspiration than by repeated coughs. Also incontrovertible, is his simple statement that chronic coughers and asthmatics should cease smoking and control coughing early!

MANAGEMENT OF COUGH

Cough can be "cured" only when the cause is found and removed. Since this is often impossible, therapy involves lesser goals. If cough is useless it should be suppressed or diminished. If it is inadequate it should be assisted. Many agents are available, and it behooves the physician to think and act according to physiological principles.

The paralyzed, unconscious or obtunded patient who is unable to cough effectively may need bronchoscopy, tracheostomy, mechanically assisted respiration or mechanically assisted coughing. His management may involve special nurses or bedside care by specialized personnel, including thoracic surgeons, anesthesiologists or other physicians with particular interest or skills in handling such problems. The problem may be of short duration, as in the case of barbiturate intoxication, or long-term in nature,

as in the case of poliomyelitis or amyotrophic lateral sclerosis. Education of institutional personnel or family members may be required. Management is often highly individualized and complex. Considerable trial and error may be necessary before a satisfactory regimen is developed. The management must take into account the prevention and treatment of infection, the removal of secretions and the provision of adequate ventilation. Extensive studies and efforts by Barach, *et al.*,¹⁵ resulted in the development of an apparatus which provides "E.W.N.P." or "Exsufflation with Negative Pressure." Gradual insufflation via tube and mask with air from a vacuum blower unit, to a pressure of 20 to 40 mm. Hg. is followed by a sudden drop to —40 mm. Hg. in 0.02 seconds. Best results are obtained with conscious patients who can cooperate, who are aware when mucus or sputum reaches the trachea, larynx, or pharynx and can then raise it to the mouth without the apparatus. About five respiratory cycles are used, repeated ten to fifteen times per session, three or four times daily. Treatments may be preceded by bronchodilator aerosols if there is an element of bronchospasm. Stoffregen,¹⁶ in Germany, developed a pistol-like trigger valve which can connect the patient's airway via mask and tube (or other airway) to a vacuum bottle suddenly, producing an 80 cm. H₂O pressure drop in 0.05 seconds. He believed the initial pre-cough positive pressure insufflation was not necessary. Neither of these devices has found general acceptance or widespread use, though in the hands of trained personnel they are useful in certain cases.

Intermittent positive pressure during inspiration or intermittent positive pressure breathing (IPPB) has been used extensively in patients with chronic respiratory disease to assist breathing, stimulate and assist coughing, and thereby improve the "bronchial toilet." Modifications of these devices continue to appear, and physiological principles are being used increasingly by those skilled in their use to improve results of such therapy. Nebulization of various agents through the tubes of these devices has been a prominent part of such therapy, making it difficult to assess the true value of the positive pressure aspect (except in those patients in whom ventilatory volume can thereby be obviously increased). More recently improve-

ments in nebulizers have made possible the delivery of pharmacologic and wetting agents as aerosols into the airways and lungs of patients in a more effective manner, so that positive pressure apparatus may not be necessary when ventilation is adequate or nearly adequate. Intensive application of such therapy by those skilled in its use is often very effective, particularly in the patient who has difficulty raising tenacious mucoid or muco-purulent material during acute exacerbations of infection or in chronic situations.

Simpler therapeutic measures, such as postural drainage, adequate hydration, splinting the painful post-operative chest during cough, and merely explaining in a forceful manner the need to cough, are remarkably useful. Here, the interest and personal attention of the physician are essential.

CLINICAL PHARMACOLOGY OF "COUGH MEDICINE"

The use of expectorants and cough mixtures, according to Goodman and Gilman,¹⁷ "is far more an art than a science." Remedies have generally contained a number of agents and most do not lend themselves to analytical evaluation. An expectorant is supposed to produce more sputum, or at least sputum which is less viscid and more easily coughed up. An anti-tussive drug should reduce the number of coughs or the violence of the cough. But how does one measure such things in a clinical situation? In an acute illness, the cough is either increasing in severity or decreasing, and there is no "plateau" of symptom severity which lasts long enough to permit control-period and treatment-period observations. Generally it is accepted that more meaningful observations must utilize subjects with chronic respiratory tract disease, who are disturbed by cough consistently and who are under no other treatment. Even in such patients, subjective observations of their own cough frequency and severity are apt to be faulty. Nicolis and Pasquariello¹⁸ gave four 30 mgm. doses of codeine or a placebo daily for five days, then a known placebo for three days, and finally another treatment of five days, switching

from codeine to placebo, or from placebo to codeine for the latter treatment period. In another study subjects were switched from one treatment to the other every third day. No significant difference was noted in the effectiveness of codeine and the placebo, when the patients' own observations were used. Best reported results occurred in the first treatment period in either case. However, when an "objective" method was used, wherein a single dose was given on successive mornings and the number of coughs was charted secretly by an observer for three hours, a significant advantage of the codeine over the placebo was found. In the latter study, double-blind conditions were maintained and sequences randomized; the patients were not aware of the study.

The evaluation of an expectorant or anti-tussive agent can hardly be accomplished when it is administered in a mixture or in combination with another drug. Many purported "clinical trials" actually attempt this. If a particular combination is to be studied as such, rigid controls should be maintained, and even if the combined drugs are found effective, no single member of the mixture or combination can be credited with the outcome.

Though necessary in the study of drugs, the anesthetized intubated animal, injected intravenously or intra-peritoneally, or given gastric doses astronomically greater than humans receive orally, is not necessarily comparable to the coughing patient. Probably the best use of animals is in screening of the specific anti-tussive synthetic drugs. For example, one standard method involves suppression of cough produced in the anesthetized cat by electrical stimulation of the superior laryngeal nerve. After establishing the intensity of an electrical stimulus needed to produce cough, the agent is injected into the femoral vein, and abolition of the inspiratory gasp and the violent expiratory component for a minimum period of ten minutes is taken as the criterion for the effective anti-tussive dose.¹⁹ One ingenious group of workers suspended a small piece of iron in the trachea of the dog in such a manner that reproducible cough could be effected by placing a magnet against the surface of the animal's neck!²⁰ In humans, inhalation of one per cent acetylcholine solution as an aerosol is said to produce a standard or re-

producibile cough lending itself to pharmacological study of drugs.²¹ Also, the inhalation of citric acid aerosol has been used to cause reproducible cough in humans.²²

I

EXPECTORANTS

A true expectorant is water, inhaled as a visible mist of droplets condensed from the vaporous or "steam" state, or broken into droplets by nebulizers. A sufficient quantity of inhaled water lowers the viscosity of the sputum. Inhalation of carbon dioxide also is reported to be a true expectorant, causing decrease in viscosity and increase in the volume of sputum.^{23, 24, 25} The enzyme dornase, derived from beef pancreas, partially depolymerizes desoxyribosenucleic acid, and is commercially available for administration in an aerosol. When purulent exudates are present in the tracheo-bronchial tree, there is evidence that this material has a prompt and effective "expectorant" action, reducing viscosity of the exudate and promoting its removal by more effective coughing.²⁶ In the absence of infection, secretions are essentially mucoid, and muco-protein accounts for about 60 per cent of the total nitrogen. L-cysteine and many of its congeners, by virtue of their free sulfhydryl groups, possess mucolytic activity. A systemic study reported by A. L. Shefner in 1963, revealed that N-acetyl-L-cysteine has a high degree of mucolytic activity, is highly soluble, has little taste, and is non-toxic. Also, it is relatively odorless.⁴⁴ Reas has shown that this compound decreases the viscosity of tracheo-bronchial secretions from patients with cystic fibrosis of the pancreas *in vitro*.⁴⁵ He has also reported clinical benefit from the inhalation of an aerosol of a 20 per cent solution, which is commercially available.⁴⁶

A number of agents have long been used in the belief that they are expectorants and continue to appear even in the "newer" proprietary cough remedies. These include ammonium chloride, potassium, sodium, and ammonium citrates and acetates, sodium and potassium iodide, antimony potassium tartrate (tartar emetic), ipecac, creosote and its constituents guaiacol and cresol, terpin hydrate, eucalyptol, and glycyrrhiza syrup.

Despite the very wide use of these salts in cough mixtures and alone in various syrups

and flavoring vehicles, few scientific attempts have even been made to assess their value. Goodman and Gilman suggest that the large amounts of water taken with these agents may account for their "expectorant" action. Basch, Holinger, and Poncher, in 1941,²³ attempted to study the volume and viscosity, as well as the nitrogen and ash content of sputum in patients with bronchiectasis, during control periods and while receiving full doses of several agents. Variation in the volume of sputum produced was so great that this parameter proved useless. In general, a definite decrease in viscosity was noted. They studied not only the salts, ammonium chloride and potassium iodide, but also the "nauseant" expectorants, fluid extract of senega, fluid extract of ipecac, and emetine hydrochloride (the latter given subcutaneously). Alstead^{27, 28, 29} noted no increase in the amount of sputum produced by patients with chronic bronchitis when they were given ipecac, potassium iodide, ammonium chloride, or ammonium carbonate in the doses usually employed.

Perry and Boyd³⁰ collected respiratory tract fluid from anesthetized rabbits and cats breathing humidified air. In developing their method of study they noted a twenty-fold decrease in respiratory tract fluid when the humidity was decreased from 80 per cent to 20 per cent and the temperature from 35 degrees to 21 degrees! Under conditions of high humidity, ammonium chloride in a dosage of 0.4 gm. per kg, given by stomach tube, produced an 88 per cent increase in the volume of respiratory tract fluid within two hours. The viscosity of the fluid was increased, and it contained more mucus. This effect was abolished by severing the vagus supply to the stomach, so it was concluded that ammonium chloride exerts a reflex expectorant action from the stomach. A similar result was obtained in rabbits given ammonium carbonate in a dose of 0.5 gm. per kg. The same investigators noted a 43 per cent increase in volume of respiratory tract fluid in rabbits and a 143 per cent increase in cats given powdered ipecac by stomach tube, in a dosage of one gm. per kg. The usual dose of ammonium chloride in a cough syrup does not exceed 0.5 gm. for an adult, or about 0.008 gm. per kg., and that of ipecac one ml. of ipecac syrup, U.S.P., containing alkaloids equivalent to 0.070 gm. of powdered ipecac,

Cough / HARVEY

or 0.001 gm. per ky. Therefore, this study does not necessarily prove that these agents are effective expectorants in the doses commonly used for man!

Sodium iodide or potassium iodide may be given in water or milk in a dosage of 0.3 gm. (approximately five drops of a saturation solution) as often as every two hours. Hydriodic acid syrup, N. F., is given in a dosage of four ml. to adults. For children it may be diluted with three parts of a fruit syrup. Sensitivity to iodide may result in excessive lacrimation, edema of the salivary glands, dermatitis and fever. Tuft and Levin, in 1943,³¹ showed by bronchoscopic collection of respiratory tract fluid that iodides appear in the secretions within 25 minutes after intravenous or oral administration of potassium iodide. The dose used in the experiment was one to two gm. intravenously and four gm. orally. Although the doses usually used as "expectorants" are somewhat smaller, there is little doubt that even with the smaller doses iodide is secreted by glands of the bronchial mucosa. But this fact does not establish that more fluid is secreted or that it is less viscous. These authors did not observe any increase of secretions through the bronchoscope.

Creosote, N. F., is obtained by the distillation of wood and is a mixture of phenols derived from wood tar. The type used medicinally is derived from beech wood. The main constituents are guaiacol and cresol. Creosote carbonate may be given in milk in a dose of 0.5 to 1.0 ml. every four hours. It is supposed to lessen the amount of mucus in chronic bronchitis and bronchiectasis and is thought to make the sputum less objectionable in taste and odor.¹⁷ The refined constituent, glyceryl guaiacolate, or guaiacol glyceryl ether, is a crystalline substance with a known chemical structure. It has appeared in the scientific and trade literature under 22 different chemical and trade names. Connell, Johnston, and Boyd³² found that glyceryl guaiacolate injected intraperitoneally into rats increased the water content of the dissected and weighed tracheas. Perry and Boyd³⁰ showed an increase in respiratory tract fluid in rabbits similarly injected. Stevens, Ronan, Sourkes, and Boyd³³ found that one gm. per kg. was required to produce a

consistent increase of respiratory tract fluid in cats if given orally. The usual dose in four ml. of a cough mixture is about 0.025 gm. or 0.00036 gm. per kg! Reports of clinical trials of this drug are marked by the usual pitfalls of subjective observations, and often have involved combinations of drugs in a cough mixture or tablet, so that the effect of the guaiacolate alone is not actually evaluated.^{34, 35, 36, 37, 38}

Terpin hydrate, N. F., is prepared by the hydration of turpentine oil, and is supposed to lessen an abundant sputum although it is also prescribed to "loosen" a dry cough. It has been given in doses of 0.3 gm. in capsules three to five times daily. Terpin hydrate elixir, N.F., contains only 68 mgm. in four ml. and therefore acts mainly as a vehicle when used in the traditional manner in cough mixtures. The vapors from a teaspoonful of turpentine oil in a pint of boiling water may be inhaled if one is so inclined.¹⁷

Eucalyptol (Eucalyptus oil, N. F., or Cine-sol, U.S.P.) is the volatile oil obtained by steam distillation of the fresh leaves of *Eucalyptus globulus* and related species ("blue-gum leaves"). It is used in medicated steam inhalations and imparts an odor of violets to the urine. Small amounts are sometimes added to cough mixtures. Ten to thirty ml. taken internally can kill an adult.¹⁷ Rather than a cough remedy it is actually a topical aromatic antiseptic with a phenol coefficient of about 2.³⁹

Syrup of glycyrrhiza, U.S.P., is merely a demulcent flavoring agent made from Russian licorice root. Compound opium and glycyrrhiza mixture, or "Brown's Mixture" is a notorious cough syrup. It is made by diluting 120 ml. of glycyrrhiza fluid extract with 120 ml. glycerin, 500 ml. of purified water, adding a solution of 0.24 gm. of antimony potassium tartrate in 12 ml. of hot purified water, 120 ml. of camphorated opium tincture ("Paregoric"), 30 ml. of ethyl nitrite spirit, and enough purified water to make 1000 ml. N. F.⁴⁰ Its alcohol content is nine to 11 per cent. Ethyl nitrite decomposes so rapidly that it is valueless, even if it were otherwise effective. Antimony potassium tartrate owes its retention in the U. S. Pharmacopeia to the fact that it is an anti-schistosomal drug. That this mixture is still used for cough is a tribute to the artistry of the medical profession. It was recently given to President

Lyndon B. Johnson, according to newspaper accounts of his respiratory illness, and no doubt the opium accomplished the desired result, *viz.*, alleviation of a troublesome cough.

II
ANTI-TUSSIVES

Gold proposed that the term, "cough remedy," be confined "in a specific sense to a drug which acts to raise the threshold of the cough center in the central nervous system, or acts peripherally in the respiratory tract to reduce the impulses which pass to this center, or a mixture which combines both actions."⁴¹ The search for new specific agents and the evaluation of old ones therefore depends on methods of producing and measuring experimental cough in animals, and assessing the value of promising drugs in humans. Though neither has proved to be easy, the basis for the use and development of specific anti-tussives is certainly sounder than that for the expectorants.

The phenanthrene alkaloids of opium have long been the most commonly used cough suppressants in clinical practice. According to Bickerman, 25 per cent of the total medical supply of narcotics in the United States in 1955 was used in cough mixtures, principally as codeine. A list of narcotic drugs and their adult dose, compiled by Bickerman,⁴² is as follows:

Codeine	8.0-15.0 mg.
Morphine	2.0- 3.0 mg.
Dihydromorphinone	0.5- 1.0 mg.
Dihydrocodeinone	5.0-10.0 mg.
Morpholinylethylmorphine	10.0 mg.
Purified opium alkaloids	2.0- 3.0 mg.
Levorphan	0.5- 1.0 mg.
Methadone	1.5- 2.0 mg.
Meperidine	25.0-50.0 mg.

In recent years a number of non-narcotic synthetic drugs have been developed in an attempt to provide cough suppression without the undesirable side-effects of narcotics which may include nausea, vomiting, anorexia, constipation, drowsiness, vertigo and occasionally even addiction. One of these is dextromethorphan (Romilar®), which has been found remarkably non-toxic and quite effective. Noscaphine (Nectadon®), though isolated from opium as early as 1817, was not studied systematically until 1952, when it was found effective in animal studies and

in clinical evaluations. Other compounds which have been investigated, found promising, and added to cough remedies include levo-propoxyphene napsylate (Novrad®), caramiphen ethanedisulfonate (Toryn®), carbetapentane citrate (Toclase®), and dimethoxanate hydrochloride (Cothera®). Chlopedianol (ULO®), diphenhydramine (Benadryl®), and methaphenilene (Diatrin®) are compounds with antihistaminic, anti-cholinergic and local anesthetic properties which have been shown to have anti-tussive effects. Benzonatate (Tessalon®), chemically related to the local anesthetic tetracaine, has been shown to have anti-tussive activity. This is of interest because it offers a new approach: systemic administration of a drug designed to produce a local anesthetic effect rather than depression of the "cough center" in the central nervous system. An excellent review of the pharmacology of synthetic anti-tussives was made by Bickerman in 1962.⁴²

The ideal cough remedy would be a specific anti-tussive agent, effective in non-toxic doses, and administered in a pleasant-tasting, demulcent vehicle. The Physician's Desk Reference for 1965⁴³ lists six preparations which contain the specific agent alone in a syrupy vehicle, and two specific anti-tussives dispensed in tablet form. Also listed are two simple mixtures containing the specific agent combined, in one instance, with a single "accepted expectorant," and in the other with two "accepted expectorants." Three narcotic mixtures are offered, all in syrups, one containing a parasympatholytic agent, one dispensed with a single "expectorant," and the other mixed with an antihistamine compound. Only one narcotic syrup containing no other drug is marketed under a trade name. The usual proprietary mixture is apt to contain a narcotic or non-narcotic anti-tussive drug, a sympathomimetic agent, various salts, creosote derivatives, antihistamines, and such drugs as eucalyptus, chloroform, ipecac, and antimony. Bronchodilators, such as ephedrine, phenylephrine, pseudo-ephedrine, etc., form the basis for some proprietary products, as do the antihistamines used singly or in combinations with several similar drugs. These are often useful but the total content of drug per unit volume is difficult for the physician to remember, and it may be more advantageous

to give these agents in capsule or tablet form, separately and in full doses.

SUMMARY

The physiology, causes, bad effects, and management of cough are reviewed. Good management must include accurate diagnosis and rational therapy. Cough may need to be suppressed or assisted. Since cure is often impossible, alleviation of distress may be the accepted lesser goal for many patients. The use of mechanical devices requires trained personnel and much individualization. Cough remedies, or "cough syrups" as used today, are difficult to evaluate scientifically. There is little evidence that "expectorant" drugs are really effective; nebulized water and proper hydration constitute rational therapy, as does the use of nebulized enzymes which depolymerize and "thin" cellular exudates, and mucolytic agents such as N-acetyl-L-cysteine which decrease the viscosity of the non-cellular mucus in the respiratory tract. Narcotics remain the most commonly used cough suppressants, though in recent years, effective synthetic anti-tussive agents have been discovered. Well designed clinical studies of the efficacy of expectorants and anti-tussives are difficult to carry out, but are needed for the evaluation of both the newer and the older agents. □

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Salt-Losing Congenital Adrenal Hyperplasia

A Review and Report of Two Cases*

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In cases of congenital adrenal hyperplasia, only early diagnosis, prompt institution of therapy and recognition of correct sex can prevent death during infancy and allow normal physical and emotional development in later life.

INTRODUCTION

CONGENITAL ADRENAL hyperplasia is an inborn error of metabolism transmitted by a recessive autosomal gene. Its homozygous incidence has been estimated by Prader³⁷ to be one per 5,041 live births in Zurich, Switzerland, and by Childs, *et al.*,¹¹ to be one per 67,000 births in the State of Maryland. The incidence in the general population probably lies between these two extremes.⁵⁰

The earliest convincing descriptions of this disease were those by Otto in 1816, Ogston in 1872, and Marchand in 1891.⁴⁵ In 1887, Phillips³⁶ described four cases of "spurious

hermaphroditism" among seven siblings in a family; all four succumbed to the salt-losing complication of this disorder. The descriptive term "adrenogenital syndrome" was coined by Gallais¹⁹ in 1912. In 1939, real insight into the pathophysiology of the syndrome was gained when Butler, *et al.*,¹⁰ recognized the fluid and electrolyte disturbance in one form of this disease as being similar to that of Addison's disease. The following year, Wilkins and associates⁵² contributed to the elucidation of the salt and water loss when they correlated their clinical, laboratory, and autopsy findings in a patient who had macrogenitosomia praecox and adrenal insufficiency.

Recently two infants with the salt-losing form of congenital adrenal hyperplasia were admitted to the Children's Memorial Hospital within a week period. These cases, coupled with the authors' interest in investigations into the pathogenesis of the disease, prompted this brief review.

CASE REPORTS

Case 1.* A one-week-old term infant was admitted for "evaluation of intersex." The infant was the product of a normal pregnancy and delivery. The mother was a 17-year-old Caucasian; the father was unknown. Physical examination showed a well developed, well nourished asthenic infant with

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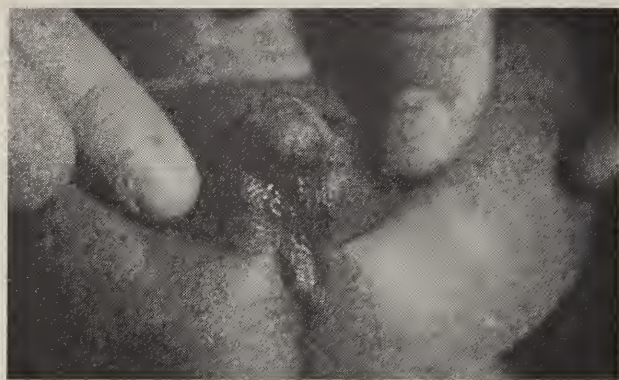


Figure 1. The ambiguous external genitalia of Case 1.

generalized hyperpigmentation. The external genitalia consisted of a 1.5 x 0.5 cm. erectile phallus with a token meatal dimple, labio-scrotal folds with posterior fusion and a single orifice leading to a urogenital sinus (figure 1). The remainder of the physical examination was within normal limits. The serum sodium was 130 milli-equivalents per liter (mEq/l.) potassium 9.3 mEq/l., chloride 109 mEq/l. The 24-hour urinary 17-ketosteroids were 5.4 mg. (normal: less than 1 mg.), pregnanetriol 5.5 mg. (normal: 0-0.2 mg.) and 17-hydroxycorticosteroids 1.0 mg. (methodology is unreliable in the newborn period). Uroгенитography confirmed the clinical impression of a urogenital sinus; the contrast medium outlined the bladder as well as the vaginal and uterine cavities. The buccal smear was chromatin positive.

The child did well until ten days of age when vomiting began. Sodium supplementation was instituted but because of continued vomiting desoxycorticosterone acetate (DOCA) in oil four mg. was given intramuscularly daily, and suppression was accomplished with the administration of hydrocortisone 25 mg. daily. The child stopped vomiting and promptly gained weight with improvement in the electrolyte disturbance. The medications were later readjusted to include oral sodium chloride supplementation 2.0 gm. daily; DOCA in oil, 1.0 mg. intramuscularly, daily; and hydrocortisone acetate 25 mg. orally, daily. Shortly before discharge two 125 mg. DOCA pellets were implanted subcutaneously in her back. Subsequently the oral steroid therapy was changed to cortisone acetate 25 mg. every three days,

given intramuscularly, and the sodium chloride added to the 24-hour formula was decreased to 1.5 gm. daily. The child continues to do well on this regime at age five months.

Case 2.** A six-weeks-old white male was transferred here from another hospital for re-evaluation of salt-losing tendency with a tentative diagnosis of salt-losing congenital adrenal hyperplasia. His prenatal and natal history was normal. He had done well until age ten days, when he started to vomit and became lethargic. At this time serum electrolytes (mEq/l.) were: sodium 128, potassium 8.7 and chloride 109. The 17-ketosteroids were 2.9 mg. per 24 hours and the 17-hydroxycorticosteroids were 0.32 mg. per 24 hours. He was given DOCA in oil 4 mg. intramuscularly, daily, and cortisone acetate 25 mg. intramuscularly every three days. He was doing well on this regimen when he was transferred to the Children's Memorial Hospital.

Physical examination showed a well developed, well nourished, alert, white male infant. His penis was 3.0 cm. long and normal testes were in the scrotum. Regional examination was negative. The child was put on a normal diet without hormonal therapy. After three days he started vomiting. The serum sodium was 130 mEq/l., potassium 6.0 mEq/l., and carbon dioxide combining power was 16 mEq/l. The following day he continued to vomit and the serum sodium decreased to 128 mEq/l. while the serum potassium increased to 6.3 mEq/l. The 24-hour urinary 17-ketosteroids were 1.0 mg. and the 17-hydroxycorticosteroids 1.7 mg. (The failure to find a significantly elevated 17-ketosteroid excretion was felt to be due to residual suppression from the cortisone acetate therapy.) He subsequently improved on 4.0 gm. of sodium chloride daily, but required hormonal replacement consisting of DOCA in oil 3.0 mg., intramuscularly daily, and cortisone acetate 25 mg., intramuscularly, daily, by the sixth hospital day. The medications were later readjusted to include sodium chloride 2.0 gm. orally daily, DOCA in oil 1.0 mg. intramuscularly daily, and cortisone acetate 25 mg. orally daily, the latter for continuation of suppression. Before discharge two 125 mg. DOCA pellets were implanted subcutaneously in his back.

**We are grateful to Doctor Samuel Sepkowitz, Oklahoma City, Oklahoma for allowing us to publish this case.

He was discharged on sodium chloride 1.0 gm. orally daily, and cortisone acetate 25 mg. every three days, given intramuscularly. Recent followup at age six months revealed that he was developing normally and was free of symptoms.

DIAGNOSIS

In the newborn female, the finding of virilized external genitalia is usually the sign that alerts the physician to the possibility of congenital adrenal hyperplasia. The infant has ambiguous external genitalia consisting of an enlarged clitoris, which is sometimes mistaken for a penis, variable degrees of scrotolabial fusion and a common vaginal and urethral opening, the urogenital sinus. This is the clinical picture of female pseudohermaphroditism.

In the newborn male, virilization (enlargement of the penis) usually is not evident. In the absence of a positive family history, the sudden onset of salt and water loss may catch an unsuspecting physician by surprise, or the occurrence of the syndrome may remain unrecognized if the infant succumbs to acute adrenal insufficiency. Clinical dehydration and/or a serum electrolyte pattern of hyponatremia, hyperkalemia and acidosis is indicative of the salt-losing form of the disease. In the male, therefore, even in the absence of virilization, one's index of suspicion can never be too high. Occasionally, the infant presents as a male pseudohermaphrodite.^{3, 4, 38}

The diagnosis of true genetic sex can be quickly resolved by the demonstration of sex chromatin (Barr bodies) in the buccal smear of the female. Genitography and, when necessary, laparotomy, are well recognized diagnostic tools although the latter is seldom indicated in cases of congenital adrenal hyperplasia.

The older child or adult with untreated congenital adrenal hyperplasia has the classical signs of virilization, including macrogenitosomia praecox, hirsutism, deep voice and advanced bone age. The affected individual appears big for his age but ends up with a short ultimate height.

The clinical signs of virilization correlate well with the uniform finding of increased

urinary 17-ketosteroids in patients with this disease. The normal value for any particular age is usually elevated two to four times. In 1954, Bongiovanni and Clayton⁶ demonstrated that pregnanetriol is consistently elevated in this disorder and since then the determination of this substance in the urine has afforded a very sensitive laboratory tool in the diagnosis and follow-up evaluation of treatment (adequacy of suppression).

Briefly, the differential diagnosis includes virilizing adrenal tumor, constitutional sexual precocity, pseudohermaphroditism due to other causes and true hermaphroditism. During infancy, the salt-losing form of this disease should be differentiated from Addison's disease, hypertrophic pyloric stenosis, acute gastroenteritis and other salt-losing syndromes not due to congenital adrenal hyperplasia such as primary aldosterone deficiency. The adolescent girl may have a clinical picture resembling the Stein-Leventhal syndrome. For a discussion of each of these and other aspects of congenital adrenal hyperplasia not covered in this paper, the reader is referred to the excellent review article by Bongiovanni and Root.⁸

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PATHOGENESIS OF VIRILIZATION
AND ADRENAL HYPERPLASIA

The constant features of virilization and persistently elevated urinary 17-ketosteroids in congenital adrenal hyperplasia led to the early concept that the basic defect was due to excessive androgen secretion by the primarily hyperactive adrenal glands. However, this concept was abandoned after the observations that androgen production could not be suppressed by testosterone analogues,⁵¹ but that cortisone administration resulted in a fall in urinary 17-ketosteroids.^{1, 24, 54} The pioneering work of Bartter and associates¹ and a series of studies by others^{7, 15, 17, 22, 24, 25} have traced the basic disturbance to an enzymatic defect leading to a deficiency in cortisol secretion.

Figure 2 shows the pathogenesis of virilization and adrenal hyperplasia. Normally, corticotrophin (ACTH) stimulates the adrenal gland to produce cortisol. Cortisol in turn limits the output of ACTH by "feedback inhibition" of the hypothalamic-anterior-pituitary-axis. In patients with congenital adrenal hyperplasia, cortisol production is decreased, resulting in a diminished

inhibition of ACTH release from the pituitary, hence the excessive output of the latter and overstimulation of the adrenals. The adrenal glands respond by hyperplasia and an increase in steroid synthesis in the direction of androgen production, leading to virilization.

CLINICAL FORMS AND
CORRESPONDING ENZYMATIC BLOCKS

Three clinical forms of this disease now are recognized. The majority of patients have the simple virilizing or compensated form,⁵ a small number are hypertensive,^{5, 20} and one-third of all patients have the salt-losing or uncompensated form.^{8, 16, 51}

Figure 3 shows the biosynthetic pathways for steroidal hormonogenesis by the adrenal gland and the sites of the various enzymatic defects. The earliest block involves the "side chain degrading" enzyme (A) which catalyzes the conversion of the precursor substance cholesterol to pregnenolone. In this instance, biosynthesis of all adrenal steroids, including the androgens, is deficient. Its deficiency is believed to be responsible for the rare salt-losing syndrome called "lipoid adrenal hyperplasia."³⁸ Deficiency in 3- β -hydroxysteroid dehydrogenase activity (B),

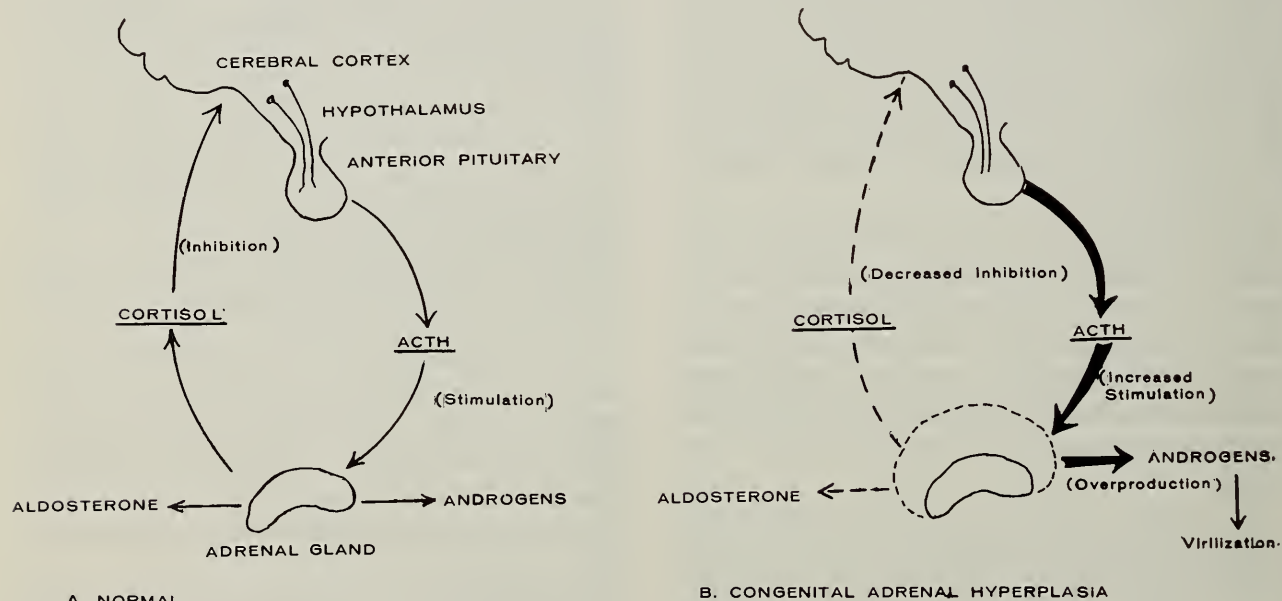


Figure 2. Shows the hypothalamic-pituitary-adrenal relationships in the normal and in congenital adrenal hyperplasia.

A. Normal: ACTH stimulates the adrenal gland to secrete normal amounts of cortisol and small amounts of androgens. By a "feed back" mechanism, cortisol limits ACTH release by the anterior pituitary.

B. Congenital adrenal hyperplasia: Impairment of cortisol secretion results in decreased inhibition of ACTH secretion by the pituitary which results in increased ACTH release, which in turn causes adrenal hyperplasia and excessive production of androgens.

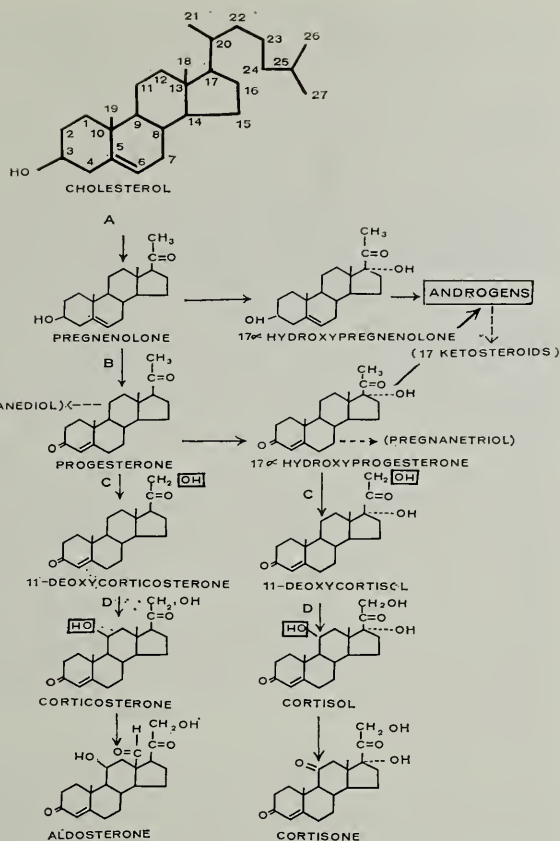


Figure 3. The pathway of biosynthesis of steroids by the adrenal gland. The enzymatic blocks in the various forms of congenital adrenal hyperplasia are indicated by capital letters.

A. "Side chain degrading enzyme."

B. 3- β -hydroxysteroid dehydrogenase (salt-losing; production of corticosteroids is blocked but androgen production takes place).

C. 21-hydroxylase (salt-losing and compensated forms).

D. 11-hydroxylase (hypertensive form).

The broken arrows point to the principal urinary metabolites (enclosed in parentheses).

which catalyzes the conversion of pregnenolone to progesterone, has been identified by Bongiovanni^{3,4} in six patients, five of whom were salt-losers. This causes a block in adrenal hormonogenesis, except for androgens formed from 17- α -hydroxypregnenolone. The majority of patients with congenital adrenal hyperplasia have a deficiency of 21-hydroxylase (C) and are unable to introduce an hydroxyl radical at position 21. This results in defective synthesis of 11-deoxycorticosterone from progesterone and 11-deoxycortisol (Reichstein's Substance S) from 17- α hydroxyprogesterone. Although 11- β -hydroxylation can still occur, the single defect disturbs aldosterone and cortisol synthesis. The precursors, progesterone and 17- α -hydroxyprogesterone, accumulate ("spill

over") and are recovered in the urine as excessive quantities of their metabolites, pregnanediol and pregnanetriol, respectively, with the latter being more prominent.⁶

According to most views, deficiency in 21-hydroxylase activity (C) may result in either the salt-losing (uncompensated) or the simple virilizing (compensated) form, depending on the degree of enzymic deficiency. The principal recognized difference between the salt-loser and the non-salt-loser lies in the relative amounts of cortisol they secrete,^{16, 20} with the non-salt-loser able to produce significant amounts of cortisol (hence, "compensated"). Accordingly, the patient with the partial defect manages to conserve salt unless a stressful situation throws him into negative sodium balance. Deficiencies in both 21-hydroxylase and 3- β -hydroxysteroid dehydrogenase activity may co-exist in a single patient.^{4, 40}

The deficiency in the enzyme 11-hydroxylase (D) which catalyzes the formation of corticosterone from 11-deoxycorticosterone and cortisol from 11-deoxycortisol, is responsible for the hypertensive form. The overproduction of 11-deoxycorticosterone is believed to be the cause of the hypertension.

PATHOGENESIS OF SODIUM LOSS

The mechanism of electrolyte and water disturbance in congenital adrenal hyperplasia has been the subject of interest and controversy for a number of years. The prevailing concept is that there is deficiency in both cortisol and aldosterone secretion which leads to sodium diuresis. The evidence* for cortisol deficiency is extensive. Until recently, the evidence for aldosterone lack has not been as clear cut. In 1955, Prader and co-workers³⁹ reported increased aldosterone excretion in patients with the compensated form, and normal to slightly above normal in the salt-losing form. Subsequent studies,^{2, 42} however, revealed that there is indeed some disordered aldosterone metabolism among salt-losers and, moreover, recent reports^{9, 30, 34} in which superior methodology was employed show subnormal secretion rates in patients with the salt-losing form.

Over the years, a number of observations have accumulated that could not be explained by the above concept. It was noted that

(*See 1, 7, 12, 15, 17, 20, 22, 24, 25, 26)

ACTH administration accentuated sodium loss^{1, 33, 53} and that salt-losers were relatively refractory to desoxycorticosterone therapy.^{18, 22} To explain these, alternative hypotheses have been advanced: 1. The excretion of a salt-losing hormone(s), 2. The production of a substance or substances inhibiting aldosterone. Indeed, both of these possibilities may occur simultaneously. In 1949, Lewis and Wilkins³³ postulated the presence of a steroid(s) which promotes the excretion rather than retention of sodium. In 1951, Klein,²⁷ upon finding that newborn infants respond to ACTH with sodium diuresis, postulated that there might be a hormone produced during the newborn period but not later in life to account for the paradoxical response. This is consistent with the observation that newborn infants do not retain sodium following surgery.^{13, 41} In 1952, Jailer, *et al.*,²² suggested that the action of cortisone in congenital adrenal hyperplasia could be attributed to suppression of a "salt-losing steroid" through inhibition of ACTH and, indeed, the amount of mineralocorticoid required is reduced after adequate suppression. Working independently, Neher, *et al.*,³⁵ and Klein and associates²⁹ found that extracts of urine from patients with the adrenogenital syndrome could cause sodium diuresis in the rat. The active fraction was termed "sodium excreting factor" (S.E.F.), and was identified as the tetrahydro derivative of 16- α -hydroxyprogesterone.³⁵ Subsequent investigations have failed to demonstrate that this compound has any natriuretic activity in man.¹⁴ 16-hydroxylase activity (the enzyme necessary for the formation of 16-hydroxyprogesterone) has been demonstrated in adrenal tissue from patients with congenital adrenal hyperplasia, Cushing's disease, and from fetuses and newborn infants.^{46, 47, 48, 49, 55}

One of the authors has developed methodology combining the techniques of paper chromatography and radioactive isotope labelling which makes possible the identification and quantitations of individual corticosteroids in submicrogram quantities in biological samples.⁴³ This highly specific method has been used to determine the pattern of circulating steroids in a six-day-old infant with salt-losing form of congenital adrenal hyperplasia and specifically to determine if

16- α -hydroxyprogesterone, the precursor and presumably active form of S.E.F. (sodium excreting factor), was present.⁴⁴ In contrast to expectations from the concept that the salt-losing form of the disease is a result of extreme deficiency of corticosteroid production, the plasma concentrations of cortisol, cortisone and corticosterone were not significantly different from those of comparable normal newborn infants. 16- α -hydroxyprogesterone was identified in the plasma of this patient in a significant concentration but was not detectable in the plasma of normal infants. Whether or not 16- α -hydroxyprogesterone has natriuretic activity in man has not been determined to the authors' knowledge. While these findings will have to be extended, they indicate that factors other than decreased cortisol and aldosterone production may be functional in the pathogenesis of the salt-losing form of this disease.

To date, no convincing proof exists that a salt-losing hormone per se has been isolated. Klein's²⁸ conceptualization of the "congeries of inert materials competitively inhibiting aldosterone," however, seems pertinent. Progesterone and 17-hydroxyprogesterone, which were indicated above as "spilling over" in large amounts in the salt-losing syndrome, may be examples of such inhibitors. It has been shown by Landau, *et al.*,^{31, 32} in man and Kagawa²³ in the rat, that progesterone is a moderately strong inhibitor of the sodium retaining action of desoxycorticosterone. Jacobs and co-workers²¹ induced salt-loss in normal men by the oral administration of large amounts of 17-hydroxyprogesterone. If these substances are truly inhibitors of aldosterone, then there is some explanation of the inappropriate response of congenital adrenal hyperplasia salt-losers to ACTH, since the latter will stimulate further the production of aldosterone antagonists.^{21, 34}

In summary, at the present time the bulk of evidence seems to support the concept that sodium loss in the salt-losing form of congenital adrenal hyperplasia is due to the relative lack of both aldosterone and cortisol. There is, in addition, evidence that certain substances that abnormally accumulate consequent to altered steroidogenesis may inhibit the action of aldosterone and thereby contribute further to the inability to conserve sodium. The possible role of a hormone(s)

with active salt-losing activity needs further investigation.

MANAGEMENT

The early recognition of the syndrome is the key to the management of congenital adrenal hyperplasia. In the first case presented, the onset of the salt-losing complication literally was awaited because of the obvious genital anomalies. In Case 2, an alert pediatrician averted the impending catastrophe. After clinical diagnosis has been made and blood and urine samples obtained for laboratory analyses, the prompt institution of saline and mineralocorticoid therapy affords dramatic relief of symptoms. Suppression is usually achieved rapidly by the intramuscular administration of cortisone acetate, 25 mg. daily. Salt and water balance is maintained by salt supplementation (2-8 gm. sodium chloride daily) and mineralocorticoid therapy (DOCA in oil 1-4 mg. per day). After the acute phase, the infant can usually be managed by lesser doses of both cortisone acetate and DOCA. In place of the latter, 9- α -fluorohydrocortisone may be used orally. Others prefer long-acting sodium-retaining steroids such as DOCA pellets implanted subcutaneously or desoxycorticosterone trimethylacetate given intramuscularly.

Although therapy must be individualized, a typical regimen includes: sodium chloride 2-3 gm. orally daily, DOCA pellet (125 mg.) implanted subcutaneously, and cortisone acetate 25 mg. every three days, given intramuscularly. While the mineralocorticoids usually can be discontinued with the passage of time, the patient is dependent on cortisone for life. The adequacy of treatment can be gauged clinically and by periodic determination of urinary 17-ketosteroids or pregnanetriol. During surgery, febrile illness, or any stressful situation, the medications should be increased accordingly. In the face of acute adrenal crisis (salt loss), vigorous therapy with parenteral cortisol and saline should be instituted. It must be remembered that occasionally symptomatic salt loss may not appear until months or years after birth. The non-salt-loser should always be regarded as a potential salt-loser so that proper medical management is instituted in times of extreme stress. The disease must

be explained fully to the parents and to the patient when he is of age, in the simplest language possible, to allay undue anxiety and to obtain optimal cooperation and results. They can be taught to give the cortisone acetate injections.

Proper assignment of sex is of paramount importance. Since procreation is probable with treatment, it is imperative that the sex of rearing agree with the gonadal sex. In this respect, determination of sex chromatin and genitography are extremely helpful. Failure to assign the proper sex, as happened often in the past, is the cause of the emotional turmoil that besets the patient and his family in later life. Finally, functional and anatomical repair of the perineum within the first two to four years of life should assure the affected individual of a satisfactory heterosexual existence.

CONCLUSION

Congenital adrenal hyperplasia is an in-born error of metabolism transmitted by a recessive autosomal gene. Three clinical forms, namely simple virilizing, hypertensive and salt-losing, are now recognized. Virilization occurs in all three forms. The salt-loss probably is due to deficiency in production of both cortisol and aldosterone, although there is evidence to suggest that other mechanism(s) may be operative. With adequate treatment, a normal life span is possible and satisfactory heterosexual existence and procreation are probable.

Two illustrative cases of salt-losing congenital adrenal hyperplasia during early infancy are presented. □

The authors are interested in continuing the investigation into various facets of congenital adrenal hyperplasia, and would welcome patients with this disease for study.

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AMA LAUNCHES NEW MEDICARE CAMPAIGN

The president of the American Medical Association announced last month that the association will renew its public information program against the Medicare Bill through the use of a nationwide special telecast and newspaper advertising in every state. Since the House-passed version of Medicare has been amended by the Senate Finance Committee, the legislative process will require another vote on the floor of the House—wherein the strongest conservative strength is found—and the AMA hopes to capitalize on this new opportunity to defeat the legislation.

ABSTRACTS

STUDIES ON RENAL DAMAGE BY BISMUTH*

The ingestion of 21 tablets of Bistrimate® containing 1.5 gm. of elemental bismuth by a 19-year-old female patient gave the authors the opportunity to study the effect of this amount of bismuth on urinary function.

On admission the patient showed glycosuria, proteinuria and granular casts. By the fifth day the urinary output was 445 ml with a blood urea nitrogen of 50 mg per cent. The lowest CO₂ combining power was 13 meq/liter on the second day. Phosphate was 1.0 mg per cent on the eleventh day and aminoaciduria was present on the tenth day. The preceding laboratory abnormalities declined and were essentially normal by the twenty-fifth day.

Clearance studies on the 11th day showed an inulin clearance of 38 per cent and a PAH clearance of 25 per cent of expected values. The maximal tubular reabsorption of glucose was 14 per cent of the expected value. On the thirty-fifth day the inulin and PAH clearances were 75 per cent and 65 per cent of normal respectively. Maximum tubular reabsorption of phosphate was 29 per cent of normal. On the thirty-second through thirty-fourth day the patient responded adequately to an acid load and showed a normal urinary concentrating mechanism on the thirty-sixth day. There was a slow response of sodium conservation to sodium restriction.

The authors conclude that proximal tubular damage is indicated by the aminoaciduria, decreased phosphate and glucose reabsorption without impairment of acidification and concentration mechanism. These defects were reversible in this patient.

*Bismuth Nephrotoxicity

Anthony W. Czerwinski, M.D., and H. Earl Ginn, M.D.,
American Journal of Medicine 37: 969, December 1964.

AN UNUSUAL INTESTINAL ABSORPTION DEFECT*

The patient in this study was a 48-year-old white female with a history of epigastric and substernal pain. These symptoms were produced by solid foods and occasionally by the supine position. She gave a history of frequent hospitalizations from age six months to two and one-half years because of feeding difficulties, intractable diarrhea and malnutrition. Profuse diarrhea was noted after ingestion of sugar. After the age of 26 there were more than 12 hospitalizations for painful, bloated abdomen suggestive of intestinal obstruction. She had at least five surgical explorations.

Laboratory examinations revealed a small hiatus hernia and an abnormal d-xylose absorption. The B₁₂ absorption, stool fats and fatty acids, and serum amylase response to secretin were normal.

Tolerance tests were performed using a nasogastric tube with glucose, invert sugar, maltose, lactose, corn starch, sucrose and isomaltose. Glucose, invert sugar, maltose, and lactose yielded normal blood sugar re-

sponses and no abdominal symptoms. Corn starch, sucrose and isomaltose caused sweating, abdominal cramping and intense watery diarrhea. The blood glucose curves were flat. Quantitative assays of intestinal peroral biopsy specimens showed no sucrase and negligible isomaltase activity. No structural abnormalities were noted on electron microscopy.

*Sucrose-Isomaltose Malabsorption In An Adult Woman.

W. M. Sonntag, M.D., M. L. Brill, M.D., W. G. Troyer, Jr., M.D., J. D. Welsh, M.D., G. Semenze, M.D., and A. Prader, M.D. *Gastroenterology* 47: 18, 1964.

EDITOR'S NOTE: The preceding two articles are of rather specialized interest. The chances are that most physicians will not be faced with either problem. They are abstracted to show how alert physicians can seize the opportunity to study interesting patients in trying to understand the pathophysiology of disease. Some of our most important medical advances have been initiated when the proper patient is seen by the properly prepared doctor.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Responses of the human upper extremity vascular bed to exercise, cold, levarterenol, angiotension, hypertension, heart failure and respiratory tract infection with fever, L. J. Kettle, H. W. Overbeck, R. M. Daugherty, J. P. Lillihei, R. F. Coburn and F. J. Haddy, *J. Clinic. Invest.* 43: 1561, 1964.

Significance of antibody to DNA in systemics lupus erythematosus, Salvador P. Casals, George J. Friou and Lynn Meyers, *Arthritis and Rheumatism* 7: 379, August, 1964.

Effects of Adenosine Triphosphate administration in irreversible hemorrhagic shock, Samir M. Talaat, Walter Massion, John A. Schilling, *Surgery* 55: 813, June, 1964.

Physiological effects of lung resection in adult and puppy dogs, Walter H. Massion and John A. Schilling, *Journal of Thoracic and Cardiovascular Surgery* 48: 239, August, 1964.

Effects of atrial and ventricular tachycardias on the cardiovascular dynamics, Jiro Nakano, *The American Journal of Physiology* 206: 547, March, 1964.

Abdominal Aortic Grafts: Use of *in vivo* structured autologous and homologous febrocollagenous tubes, John A. Schilling, Helen Shurley, Walter Joel, Betty White and Reagan H. Bradford, *Annals of Surgery* 159: 819, June, 1964.

Biochemical changes induced by ultraviolet light, Mark A. Everett, M.D., *Dermatologia Tropica* 3: 97, Apr.-June, 1964.

Reprints of the above publications are usually available from Mrs. Joan Campbell, Veterans Administration Hospital, 921 N.E. 13th, Oklahoma City, Oklahoma.

ANNUAL MEETING HIGHLIGHTS

Nearly 600 members of the Oklahoma State Medical Association attended the 1965 Annual Meeting held in Tulsa's Assembly Center and Mayo Hotel, May 14th through 16th.

An outstanding scientific and educational program was combined with the beautiful new convention facilities of Tulsa's Assembly Center to make the association's 59th convention a resounding success.

Under the direction of General Chairman Howard A. Bennett, M.D., Tulsa, a host group of Tulsa physicians planned two and one-half days of scientific seminars in the fields of radiology, medicine, treatment of cardiac arrhythmias, cancer chemotherapy, and pulmonary diseases. Other programming included the Second Annual Peter E. Russo Memorial Conference on Medicine and Religion, presented by the OSMA Medicine and Religion Committee, and a Medical-Legal Conference planned by Dave B. Lhevine, M.D., Tulsa, Chairman of the association's Council on Insurance.

Sixteen guest lecturers, including AMA President Donovan F. Ward, complimented a large panel of local program participants.

Kenyon Installed

At Saturday night's Inaugural Dinner-Dance, Rex E. Kenyon, M.D., Oklahoma City, succeeded Harlan Thomas, M.D., Tulsa, as President of the Oklahoma State Medical Association. Three hundred persons attended the inaugural event, which included a social hour, buffet dinner, inaugural ceremonies, entertainment by Oklahoma Baptist University's Bison Glee Club, and dancing to the music of Marjean Fox and her orchestra.

E. M. Gullatt, M.D., Ada, was elected President-Elect of the association by the House of Delegates; Wylie G. Chesnut, M.D., Miami, was named Vice-President; Malcom E. Phelps,

M.D., El Reno, was re-elected to another two-year term as OSMA Delegate to the American Medical Association, and Tom C. Points, M.D., Oklahoma City, was chosen to succeed himself as Alternate Delegate for two years.

The following physicians were elected to the Board of Trustees: Orange M. Welborn, M.D., Ada (to fill the unexpired term of E. M. Gullatt, M.D.); H. E. Denyer, M.D., Bartlesville; Minor E. Gordon, M.D., Claremore; Walter H. Dersch, M.D., Shattuck; John X. Blender, M.D., Cherokee; Jerold D. Kethley, M.D., Shawnee; Edward K. Norfleet, M.D., Norman; Thurman Shuller, M.D., McAlester; Charles S. Cunningham, M.D., Poteau; J. T. Hicks, M.D., Lawton; and, W. R. Cheatwood, M.D., Duncan.

The OSMA Annual Meeting traditionally provides an umbrella for a

variety of related activities, such as:

- The Oklahoma Medical Political Action Committee conducted its annual meeting in conjunction with the OSMA event, electing the following officers: State Chairman—F. W. Hollingsworth, M.D., El Reno; Treasurer—Nolen L. Armstrong, M.D., Oklahoma City; Secretary—Mrs. J. R. Stacy, Oklahoma City. Directors are: District I—Paul A. Bischoff, M.D., and Worth M. Gross, M.D., both of Tulsa; District II—Elvin M. Amen,

Complete Annual Meeting
Proceedings Begin on Page 268

M.D., Bartlesville, and David Carson, M.D., Fairland; District III—Ross Rumph, M.D., McAlester, and Tom C. Sparks, M.D., Ardmore; District IV—Francis A. Davis, M.D., Shawnee, and David C. Ramsay, M.D., Ada; District V—Edward K. Norfleet, M.D., Norman, and J. R. Stacy, M.D., Oklahoma City; District VI—Paul B. Lingenfelter, M.D., Clinton, and William A. Matthey, M.D., Lawton.

- OSMA's Annual Golf Tournament was played on May 14th at Tulsa's Oaks Country Club. For the second straight year, Edmond H. Kalmon,



Newly-elected officers of the OSMA are pictured immediately following their election at the annual meeting in Tulsa. First row: Rex E. Kenyon, M.D., President; E. M. Gullatt, M.D., President-Elect; John X. Blender, M.D., Trustee; Minor E. Gordon, M.D., Trustee; Thurman Shuller, M.D., Trustee; William R. Cheatwood, M.D., Trustee; and, Wylie G. Chesnut, M.D., Vice-President. Second row: Malcom E. Phelps, M.D., Delegate to the AMA; Tom C. Points, M.D., Alternate Delegate to the AMA; J. T. Hicks, M.D., Trustee; Jerold D. Kethley, M.D., Trustee; Orange M. Welborn, M.D., Trustee; Edward K. Norfleet, M.D., Trustee; Walter H. Dersch, Jr., M.D., Trustee; and, H. E. Denyer, M.D., Trustee.

M.D., Oklahoma City, was the Low Gross winner.

- Forty-two technical exhibitors displayed their goods and services to Oklahoma physicians, and the exhibit hall also featured twelve scientific exhibits prepared by state physicians and health organizations.

- Alumni groups from the University of Oklahoma School of Medicine and the University of Arkansas School of Medicine held special reunion meetings, as did the O.U. Class of 1955. In addition, a number of medical specialty societies used the OSMA annual meeting as a convenient opportunity to conduct annual business meetings and social events.

Business Actions

The House of Delegates, efficiently guided by Speaker C. M. Hodgson, M.D., Kingfisher, and Vice-Speaker Worth M. Gross, M.D., Tulsa, took action on eleven reports and as many resolutions during two separate half-day sessions, May 14th and May 15th.

Below are some highlights of the business proceedings:

- *Indigent Medical Care Programs:* Payment for professional care of Crippled Children's cases was requested for the third straight year. In addition, the Delegates advised the Department of Public Welfare that the professional fee schedule for care of indigent adults and children must be revised to provide full payment for the services rendered. Regarding priority adjustments in methods and amounts of compensation, the Delegates first asked that Welfare Department cutbacks be restored for hospitals, then payment should commence at the existing rates for care of Crippled Children, and, finally, the entire professional fee schedule should be upgraded to provide for full payment.

- *Dependents' Medical Care Program:* In response to a letter from the Department of Defense requesting the negotiation of a contract for providing health benefits to dependents of servicemen, the Delegates voted to re-open such negotiations, provided that any resultant contract must be reviewed annually, and specifying that the contract include



Harlan Thomas, M.D., (left) 1964-65 President of the Oklahoma State Medical Association, is shown presenting a \$11,248.72 check to James L. Dennis, M.D., Dean of the University of Oklahoma School of Medicine. The check represents contributions to the American Medical Association Education and Research Fund (AMAERF) which have been allocated to the Oklahoma school.

Oklahoma Blue Shield as a third party fiscal agent.

- *Health Economic Survey:* A major health economic survey for the State of Oklahoma was endorsed by the Delegates, as recommended by the association's Prepaid Medical Care Committee. The project, which is expected to take a year to complete, will seek to appraise the abilities of Oklahoma people to finance their health care, to identify gaps in prepayment protection, and to develop plans to correct inequities which may exist. Principal partners in the survey effort—to be established in the form of a "Task Force"—will be the OSMA, Oklahoma Blue Cross-Blue Shield, the Oklahoma Hospital Association, and public representatives.

- *Physician-Pharmacist Code of Understanding:* To improve relations between medical doctors and phar-

macists, the House endorsed a model Physician-Pharmacist Code of Understanding, as prepared by the association's Committee on Pharmacy in cooperation with the Oklahoma Pharmaceutical Association.

- *Medical and Osteopathic Physician Relations:* Perhaps the most significant policy adopted by the House of Delegates was the revised policy governing M.D.-D.O. relations. Where it had been unethical in the past for M.D.'s to voluntarily associate on a professional basis with any osteopaths, the new policy permits county medical societies to grant professional recognition to certain osteopaths on an individual basis. The policy statement provides general guidelines for determining scientific and ethical qualifications of osteopathic applicants. However, during the next year the association's Committee on Osteopathy will de-

velop more specific regulations and will establish liaison with the osteopathic profession on a selective basis.

• *Non-Participation:* A resolution encouraging non-participation in the Medicare Program was temporarily sidestepped by the House of Delegates. Delegates termed the action premature in view of the fluid Medicare situation in Washington, and deferred action on the resolution pending final passage of the Medicare Bill. However, the door was left open for reconsideration of the resolution at a special session of the House should Medicare be enacted into law. As an alternate expression of physician resistance to Medicare, the House re-affirmed an existing policy which said, in part, that the association would not be "... a willing party to implementing any system which we believe to be detrimental to the public welfare."

• *Birth Control Policy:* The House of Delegates generally supported a previous action of the association's Board of Trustees to establish policy on human reproduction and population control. Recognizing that population control is not only a matter of responsible parenthood but is also a matter of responsible medical practice, the Delegates encouraged physicians to not only disseminate birth control information to their individual patients, but to also cooperate with appropriate organizations in the field of human reproduction which have adequate medical direction. The policy statement further provided that "... child-spacing measures should be made available to all patients who require them, consistent with their creed and mores, whether they obtain their medical care through private physicians or tax or community supported health services."

• *OMPAC Dues:* A resolution was approved calling for the OSMA to

send bills to all association members each year for dues in the Oklahoma Medical Political Action Committee, but providing that payment of OMPAC dues would be voluntary.

• *Contract Radiology:* Delegates endorsed the recent policy of the American College of Radiology which declares restrictive covenants or contracts unethical in the practice of radiology, and urges the separation of professional billing from hospital billing for radiologic services.

• *Revised Constitution and Bylaws:* Action on a proposed new constitution and bylaws for the association was deferred due to inadequate time for thorough consideration. However, a portion of the new bylaws which strengthens disciplinary authority was approved, and it was agreed to call a constitutional convention of the House of Delegates to fully consider and take action on the entire revised document at an early date. □

KENYON NAMES COUNCILS, COMMITTEES

The president of the Oklahoma State Medical Association, Rex E. Kenyon, M.D., Oklahoma City, has announced tentative appointments to the various Councils and Committees of the association.

Under the organizational structure outline in the OSMA bylaws, the association activities are administered by Standing Committees, Councils and Special Committees. The responsibilities of Standing Committees are outlined in the bylaws, while Councils and Special Committees are given special assignments in

accordance with the directives of the House of Delegates and Board of Trustees. In addition, the Councils and Committees are largely responsible for implementing the program of the President.

Council chairmen will be asked to hold organizational meetings as soon as possible, at which time the program assignments will be outlined and the possible appointment of additional committees will be discussed.

The following individuals have been asked to serve in the stated capacities:

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Wylie G. Chesnut, M.D., Miami
Bob J. Rutledge, M.D., Oklahoma City
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Y. E. Parkhurst, M.D., Norman (1 year)
Thomas C. Points, M.D., Oklahoma City (1 year)
J. William Finch, M.D., Hobart (3 years)
Maxwell A. Johnson, M.D., Tulsa (3 years)

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John A. Graham, M.D., Pauls Valley
Henry D. Wolfe, M.D., Hugo

GRIEVANCE

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J. Hoyle Carlock, M.D., Ardmore
Joe L. Duer, M.D., Woodward
Harlan Thomas, M.D., Tulsa

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James W. Murphree, M.D., Ponca City (1 year)
Donald L. Dycus, M.D., Norman (1 year)
Mrs. David I. Kraft, Oklahoma City (1 year)
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Oklahoma State Medical Association

1965-66

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Oklahoma State Medical Association

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Proceedings of the 59th Annual Session of the House of Delegates of the Oklahoma State Medical Association

OPENING SESSION

The 59th Annual Session of the House of Delegates of the Oklahoma State Medical Association was called to order at 9:15 a.m., by C. M. Hodgson, M.D., Speaker of the House of Delegates, on Friday, May 14, 1965, in the Tulsa Assembly Center, Tulsa, Oklahoma.

Invocation was given by Marvin B. Glismann, M.D., Oklahoma City.

C. Riley Strong, M.D., Chairman of the Credentials Committee, declared a quorum present.

The Speaker announced the following working committees had been appointed:

Credentials Committee

C. Riley Strong, M.D., Chairman
John A. Graham, M.D.
A. W. Brownlee, M.D.
Henry D. Wolfe, M.D.

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John X. Blender, M.D.

Tellers

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Myra A. Peters, M.D.
Arthur F. Elliott, M.D.
Minor E. Gordon, M.D.

Parliamentarian

Worth M. Gross, M.D., Vice-Speaker of the House of Delegates

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Ollie McBride, M.D.
George B. Gathers, M.D.
Wiley G. Chesnut, M.D.
W. R. Cheatwood, M.D.
Recording Secretary: Dwight Whelan
As the next order of business, the following guests were introduced and brought greetings to the House of Delegates:

Howard A. Bennett, M.D., Tulsa, General Chairman of the 1965 Annual Meeting.

Mrs. J. F. York, Madill, Retiring President, Woman's Auxiliary to the Oklahoma State Medical Association.

Mrs. Richard E. Witt, Muskogee, Incoming President, Woman's Auxiliary.

Mrs. Richard A. Sutter, St. Louis, Missouri, President-Elect, Woman's Auxiliary to the American Medical Association.

Mrs. Jordon Kelling, Waverly, Missouri, President, Woman's Auxiliary to the Southern Medical Association.

Mrs. Lucille Swearingen, Bartlesville, Speaker of the House of Delegates, American Association of Medical Assistants.

James L. Dennis, M.D., Oklahoma City, Dean, University of Oklahoma School of Medicine.

President Harlan Thomas, M.D., presented Doctor Dennis with a check from the American Medical Association Education and Research Foundation in the amount of \$11,-248.72.

Kirk T. Mosley, M.D., Oklahoma City, Commissioner of Health.

James F. McMurry, Oklahoma City, President, O.U. Chapter, Student American Medical Association.

Donovan F. Ward, M.D., Dubuque, Iowa, President, American Medical Association.

The Speaker welcomed all members and guests to the 59th Annual Assembly and made the following remarks:

"Last year some procedural changes in the activities of the House of Delegates were instituted. These are the two-day meeting and the creation of four reference committees. All reports and resolutions will be sent to one of these committees before final House action is taken.

"A revision of the Constitution and Bylaws will be presented for consideration. Delegates and members are urged to attend the reference committee meetings and to participate in the discussions in order that the final committee reports will represent the best thinking of our membership.

"On the horizon we see the specter of a different era confronting our profession. The Pied Piper of today is as appealing as the fictional hero. In spite of our frustrations, disappointments, and the social and political revolution in which we are embroiled, let us count our blessings.

"Many years ago, Robert Lewis Stevenson wrote, 'There are men and classes of men that stand above the common herd; the soldier, the sailor, the shepherd not infrequently, the artist rarely, rarer still the clergyman, the physician almost as a rule. He is the flower of our civilization,

(Continued on Page 272)

DEATHS

S. P. ROBERTS, M.D.
1874-1965

S. P. Roberts, M.D., 91-year-old Nowata physician, died May 9th, 1965.

Doctor Roberts graduated from the University College of Medicine in Richmond, Virginia in 1901. He practiced in Cairo, West Virginia before moving to Guthrie, Oklahoma in 1915. In 1928, he established his practice in Nowata. Doctor Roberts had been semi-retired for four years but still maintained offices.

For his years of dedicated service to his profession, Doctor Roberts was awarded a Life Membership in the Oklahoma State Medical Association in 1949.

E. M. POER, M.D.
1874-1965

A veteran Mangum physician, E. M. Poer, M.D., died in Mangum May 13th, 1965.

The 91-year-old doctor graduated from the Fort Worth School of Medicine in 1908. He retired from active practice in 1957 following more than 37 years of practice in Mangum.

Doctor Poer had received dual honors from the Oklahoma State Medical Association. In 1951, he was presented both a Fifty-Year Pin for over half a century of active medical practice and a Life Membership for service to his profession.

REYNOLD PATZER, M.D.
1906-1965

Oklahoma City physician, Reynold Patzer, M.D., died in Oklahoma City, May 24th, 1965.

A native of North Dakota, Doctor Patzer graduated from Loma Linda University School of Medicine in 1937. After practicing in New Orleans and Plymouth, Indiana, Doctor Patzer came to Oklahoma City. He was a former Associate Professor of Surgery at the University of Okla-

homa School of Medicine.

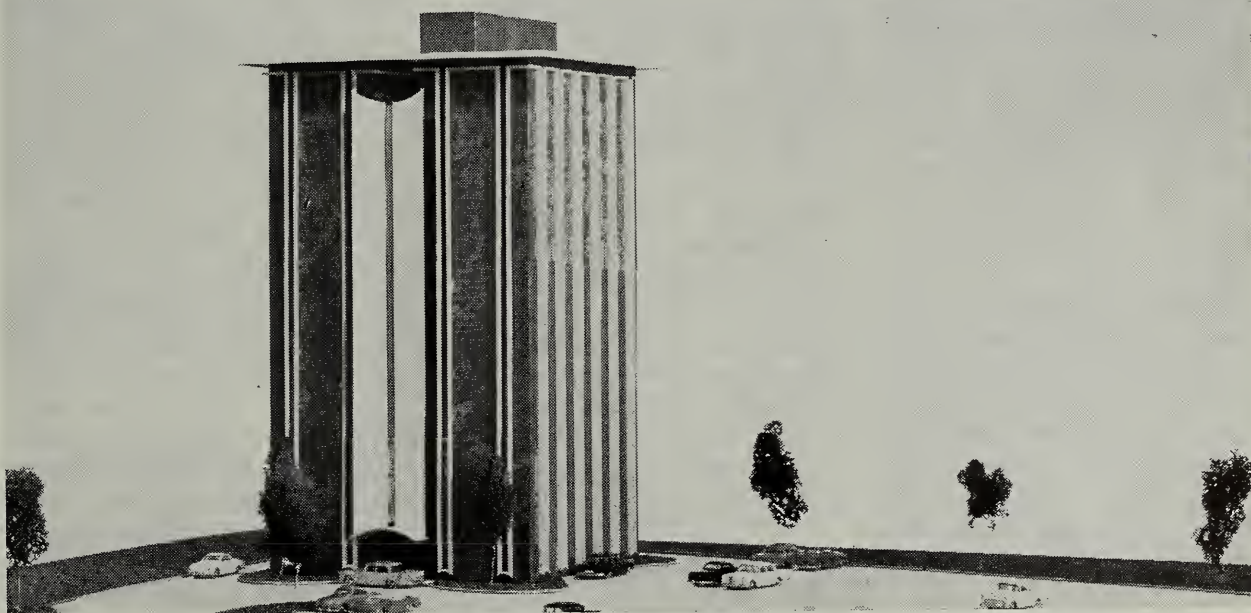
Doctor Patzer was a member of the American Society of Abdominal Surgeons and the American Federation of Clinical Research.

J. A. MORROW, M.D.
1875-1965

One of Oklahoma's pioneer physicians, J. A. Morrow, M.D., died May 11th in Sallisaw.

Born in Prairie Grove, Arkansas, the 89-year-old doctor was a graduate of the Memphis Hospital Medical College. His first practice was established in Uniontown, Arkansas in 1899 where he remained for twelve years. In 1912, he moved to Sallisaw where in addition to his private practice, he was active in many civic and charitable organizations.

Doctor Morrow was presented an Honorary Membership in the Oklahoma State Medical Association in 1952 in appreciation for his service to humanity and his profession.



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F. L. NELSON, M.D.
1886-1965

F. L. Nelson, M.D., considered the dean of Tulsa physicians in length of service at the time of his retirement, died in Tulsa May 21st, 1965.

Doctor Nelson was born and began his practice in Prescott, Arkansas in 1906, after his graduation from the University of Arkansas School of Medicine. His retirement late in 1963 ended a 59-year medical career.

The general practitioner was presented a Life Membership by the Oklahoma State Medical Association in 1955.

W. R. MARKS, M.D.
1889-1965

W. R. Marks, M.D., 75-year-old Vinita physician died in Vinita, May 21st, 1965.

Born near Vinita in 1889, Doctor Marks received his medical degree from the University of Illinois School of Medicine in 1912. Following three years of service with the Medical Corps during World War I, he practiced in Vinita until his retirement in 1963.

In appreciation for his years of service to his profession, Doctor Marks received a Fifty-Year Pin from the Oklahoma State Medical Association in 1963 and was again honored by OSMA when they presented him with an Honorary-Life Membership in 1964.

JOHN R. REID, M.D.
1894-1965

An Oklahoma City physician, John R. Reid, M.D., died April 3rd, 1965 in Oklahoma City.

A native of Blair, Oklahoma, Doctor Reid graduated from the University of Oklahoma School of Medicine in 1921. After 25 years of practice in Altus, Oklahoma, he moved to Oklahoma City where he practiced until 1962.

In 1964 the Oklahoma State Medical Association presented Doctor Reid with an Honorary-Life Membership in recognition of his service to the profession. □

Miscellaneous Advertisements

WANTED: General practitioner with interest in obstetrics and pediatrics for very successful practice in north central Oklahoma university city. Will lease furnished new offices, air conditioned, with laboratory or will consider salary arrangement while owner is on two-year overseas assignment. Contact Key A, The Journal, Oklahoma State Medical Association, P. O. Box 18696, Oklahoma City.

PHYSICIAN WANTED to work full-time in university health work at Oklahoma State University, Stillwater. Excellent working conditions, regular hours, and many extra benefits. Contact Donald L. Cooper, M.D., Director, Student Health Service, Oklahoma State University, Stillwater, Oklahoma.

PARTNER WANTED: G.P. or surgeon to join three doctors. We own our clinic building and equipment located only three blocks from modern hospital operated by the Felician Sisters. Excellent salary first year with full partnership at the end of one year to compatible, competent M.D. Contact the Neumann-Ottis Clinic, Okarche, Oklahoma.

WANTED: Staff physicians (3). General practitioners 45 or under to assist attending staff and general practice residents in 260-bed general hospital. Annual appointment preferred. \$15,000-\$17,500 depending on training and experience. Contact Medical Director, San Luis Obispo General Hospital, San Luis Obispo, California. Phone 805-543-1500.

WANTED: Ob-Gyn board certified or eligible who desires unique opportunity in university town to acquire active Ob practice. Nothing for sale. Contact Key O, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

ENERGETIC GP for associate in Northeastern Oklahoma Clinic. New hospital available, operated by Baptist General Convention. Contact W. A. Cotner, M.D., Grove Clinic, Grove, Oklahoma.

NEAR EDMOND—80 acres on paving, smooth, good terraced grassland, some timber on one side, low taxes, few improvements, part minerals, 20 minutes to Oklahoma City (near IS-35). Why pay extreme prices for desirable land? Ray Coyner, broker, PL 4-3685, Edmond, Oklahoma.

EXCELLENT WHEAT LAND, Cherokee, Oklahoma. This 80 produced more than \$3,650.00 in crops alone in 1964, no improvements, low taxes, hard surface road, ¼ minerals now, ¼ later. Owner will carry over 50 per cent. Ray Coyner, broker, PL 4-3685, Edmond, Oklahoma.

O.U. GRADUATE awaiting active duty in the Air Force desires locum tenens work during the months of July and early August. Contact Key H, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED physician to take over well-established general surgery practice. Central location near all hospitals. For further information, contact Key P, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

AVAILABLE August 1st, clinic practice in Drumright, Oklahoma. City of 4,000—surrounding area 10,000. New 25-bed hospital and 50-bed nursing home. Contact Bill Fowler, 153 East Broadway, Drumright, Oklahoma. FL 2-2545 or FL 2-2288.

Miscellaneous Advertisements

Continued

FOR SALE, 1963, red super-sports Chevrolet Impala. Bucket seats, air-conditioned. Owned by the late Peter E. Russo, M.D. Call GReenfield 8-0820.

MISSIONARY-PHYSICIAN is badly needed for new hospital to be opened in February, 1966 on Little Diomed Island off the west coast of Alaska. Anyone interested may secure further information by contacting A. C. Hirshfield, M.D., 908 N.W. 50th, Oklahoma City.

ELIMINATE posting errors! Cut posting time by two-thirds, through the use of machine posting equipment. Purchase my two-year-old, Burroughs P602 Machine Posting equipment. Easy to use and fool-proof. Price, \$700.00. Terms can be arranged. Contact Key R, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED board qualified or certified ophthalmologist in town of 24,000 population with a trade area of approximately 50,000. Town has three fully accredited hospitals. Large ophthalmology practice being abandoned. Excellent opportunity. Contact Kevin C. Taylor at BR 3-5801 or P.O. Box 909, Shawnee, Oklahoma.

WANT your office away from traffic and noise? Tired of driving a great distance to make your hospital visits? Wishing your patients didn't have to climb stairs or operate elevators? Then you should investigate the attractive offices available in this deluxe new professional building adjacent to Baptist and Deaconess Hospitals. Clinic Building, 3434 Northwest 56th, Oklahoma City. Contact Key Y, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED associate for well-established clinic in Northern Oklahoma community of 10,000. Prefer young general surgeon interested in diversified practice or young internist interested in wide practice. Salary and percentage open to negotiation. Contact Key L, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

INTERNIST for five-man department in busy and steadily growing north central Kansas 13-member multi-specialty group. Partnership after salary for two years. Board eligible or certified. Contact Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

WANTED internist and general surgeon, board eligible or certified to be associated with 12-man specialty group; salary open; no investment; early partnership; city of 35,000. Write R. S. Fillmore, M.D., King's Daughters Clinic, Temple, Texas.

FOR SALE complete equipment for establishing a medical practice, all in excellent condition, including cabinets, sterilizers, autoclave, examining tables, desks, chairs, waste and scales for two rooms. Also Diathermy Metabolor, Burdick EKG, Thermo-fax and laboratory equipment. This equipment will have to be seen to appreciate. J. Hoyle Carlock, M.D., Gilbert Building, Ardmore, Oklahoma.

EXPERIENCED X-ray technologist desires location. Training completed. Contact Miss Sue Nance, Newport, Arkansas. Phone JA 3-3707.

THE CHICKASHA clinic has an immediate opening for a board certified or qualified internist. This is an excellent opportunity for a young man as it leads to an associateship in the medical practice of the clinic with no investment. Interested persons should contact Jim Loy, clinic administrator or Bill McDoniel, M.D., Chief of the clinic staff. Phone CA 4-4853.

HOW WOULD you like to bring along just your physician's bag and take over a well-established and growing general practice in town of 35,000 when I leave for a residency next July 13th? Office space of 1,700 square feet can be leased. Equipment can be leased or purchased. Contact Key J, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

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(Continued from Page 268)

and when that stage of man is done with only to be marvelled at in history, he will be thought to have shared but little in the defects of the period and to have notably exhibited the virtues of the race.'

"May we emulate the poet's thoughts during this meeting of our association."

The following announcements were made by the Speaker:

1. The 60th Annual Meeting of the Oklahoma State Medical Association will be held in Oklahoma City's Skirvin Hotel, May 12-15, 1966.

2. The House will try to complete the opening session by noon, to permit delegates to attend the "Entertainment Luncheon" and the afternoon scientific program.

3. The reference committees will meet at 4:00 p.m. this afternoon in the Mayo Hotel in the following meeting rooms:

Reference Committee No. I, Room A.

Reference Committee No. II, Emerald Room.

Reference Committee No. III, Metropolitan Room.

Reference Committee No. IV, Studio Room.

The Speaker then asked the pleasure of the House of Delegates in regard to the reading of the minutes of the last annual meeting.

E. K. Norfleet, M.D., Norman, moved to approve the minutes of the last meeting as published in the OSMA Journal. Y. E. Parkhurst, M.D., Oklahoma City, seconded the motion and it carried.

The House recessed ten minutes to allow Trustee Districts 1, 4, 7, 10, and 13 to caucus.

The next order of business on the agenda was the nomination of officers. The Speaker declared the House of Delegates open for nominations for the office of President-Elect.

E. N. Gullatt, M.D., Ada, was nominated by Orange M. Welborn, M.D., Ada. (One-year term of office.)

Joe L. Duer, M.D., Woodward,

moved to cease nominations. Robert L. Loftin, M.D., Broken Bow, seconded the motion and it carried.

Nominations were open for the office of Vice-President. (One-year term of office.)

Wiley G. Chesnut, M.D., Miami, was nominated by E. K. Norfleet, M.D.

W. R. Cheatwood, M.D., Duncan, moved to cease nominations. E. H. Shuller, M.D., McAlester, seconded the motion and it carried.

Nominations were open for Delegate to the American Medical Association. (Two-year term of office.)

Malcom E. Phelps, M.D., El Reno, was nominated by F. W. Hollingsworth, M.D., El Reno.

Y. E. Parkhurst, M.D., moved to cease nominations. Joe L. Duer, M.D., seconded the motion and it carried.

Nominations were open for Alternate Delegate to the American Medical Association. (Two-year term of office.)

Thomas C. Points, M.D., Oklahoma City, was nominated by Y. E. Parkhurst, M.D.

W. A. Matthey, M.D., Lawton, was nominated by J. T. Hicks, M.D., Lawton.

Francis A. Davis, M.D., Shawnee, moved to cease nominations. The motion was duly seconded and carried.

Nominations were declared open for Trustees from Districts 1, 4, 7, 10, and 13. (Three-year term of office.)

DISTRICT 1:

H. E. Denyer, M.D., Bartlesville, was nominated by John R. Reid, Jr., M.D., Nowata.

Minor E. Gordon, M.D., Claremore, was nominated by John R. Smithson, M.D., Dewey.

DISTRICT 4:

John X. Blender, M.D., Cherokee, and Walter H. Dersch, Jr., M.D., Shattuck, were nominated by Joe L. Duer, M.D., Woodward.

DISTRICT 7:

Jerold D. Kethley, M.D., Shawnee, and E. K. Norfleet, M.D., Norman, were nominated by Leon D. Combs, M.D., Shawnee.

DISTRICT 10:

Thurman Shuller, M.D., McAlester,

and Charles S. Cunningham, M.D., Poteau, were nominated by C. E. Lively, M.D., McAlester.

DISTRICT 13:

W. R. Cheatwood, M.D., Duncan, and J. T. Hicks, M.D., Lawton, were nominated by W. A. Matthey, M.D., Lawton.

The Speaker called upon Malcom E. Phelps, M.D., Delegate to the American Medical Association to report on proceedings of meetings held by the AMA House of Delegates.

Doctor Phelps reported there had been three meetings held by the AMA House of Delegates during the past year. 1) San Francisco, California, June 21-25, 1964; 2) Miami Beach, Florida, November 29-December 2, 1964; and 3) A Special Session held in Chicago, Illinois, February 6-7, 1965. He said he would not go into detail on the proceedings of these meetings, since they had been published in the *Journal of the American Medical Association*.

Since Wilkie D. Hoover, M.D., Tulsa, Delegate to the American Medical Association, was unable to attend this annual session, due to illness, Doctor Phelps made the following motion:

That the House of Delegates send Doctor Hoover greetings and wish him a speedy recovery. Doctor Harlan Thomas seconded the motion and it carried.

Next on the agenda was the *Report of the President*, which was read by Doctor Harlan Thomas. The report was referred to *Reference Committee No. I*. (A copy of the report is attached and made a part of these minutes.)

Doctor Thomas then read the *Board of Trustees Report*, which was referred to *Reference Committee No. I*. (A copy of the report is attached and made a part of these minutes.)

The *Treasurer's Report* was reviewed by Bob J. Rutledge, M.D., Secretary-Treasurer, and was referred to *Reference Committee No. I*. (A copy of the report is attached and made a part of these minutes.)

The Speaker advised the House that the following Council and Committee Reports were received and referred to their designated reference committee:

1. *Council on Socio-Economic Activities*, E. M. Gullatt, M.D., Chairman, referred to *Reference Committee No. III*. (Copy Attached)

2. *Council on Public Policy*, Rex E. Kenyon, M.D., Chairman, referred to *Reference Committee No. II*. (Copy Attached)

3. *Council on Interprofessional Relations*, Orange M. Welborn, M.D., Chairman, referred to *Reference Committee No. II*. (Copy Attached)

4. *Council on Public Health*, Hayden H. Donahue, M.D., Chairman, referred to *Reference Committee No. IV*. (Copy Attached)

5. *Council on Insurance*, Dave B. Lhevine, M.D., Chairman, referred to *Reference Committee No. IV*. (Copy Attached)

6. *Council On Professional Education*, S. N. Stone, Jr., M.D., Chairman, referred to *Reference Committee No. I*. (Copy Attached)

A. *Financial Aid to Education Committee*, Joe L. Duer, M.D., Chairman, referred to *Reference Committee No. I*. (Copy Attached)

7. *Constitution and Bylaws Committee*, George H. Garrison, M.D., Chairman, referred to *Reference Committee No. I*. (Copy Attached)

The Speaker announced that Resolutions 1 through 11 would be read by "Title" and "Resolve"; (Copies of Resolutions No. 1 through 11 Attached)

Resolution No. 1, entitled "Voluntary Billing For AMPAC and OMPAC Dues" was read by D. A. Matthey, M.D., Lawton.

Resolution No. 2, entitled "Payment of Fees to Physicians For Care of Crippled Children's Service Cases" was read by Maxwell A. Johnson, M.D., Tulsa.

Resolution No. 3, entitled "Endorsement of AMA Policy on Human Reproduction" was read by Doctor Maxwell A. Johnson.

Resolution No. 4, entitled "Recommendation of Russell Wilson, M.D., to an Executive Position in the Department of Health, Education and Welfare" was read by Wayne A. Starkey, M.D., Altus.

Resolution No. 5, entitled "Official Seal" was read by Cecil R. Stansberry, M.D., Oklahoma City.

Resolution No. 6, entitled "Non-Participation" was read by Francis A. Davis, M.D., Shawnee.

Resolution No. 7, entitled "OSMA Opposition to Senate Bill 421 and Support of Senate Bill 473" was read by Cecil R. Stansberry, M.D.

Resolution No. 8, entitled "The Practice of Radiology in Hospitals" was read by Doctor Maxwell A. Johnson.

Resolution No. 9, entitled "Opposition to H.B. 939" was read by Cecil R. Stansberry, M.D.

Resolution No. 10, entitled "AMA Eldercare Campaign" was read by Malcom E. Phelps, M.D., El Reno.

Resolution No. 11, entitled "Extending Appreciation to the Shepherd Foundation" was read by Doctor Phelps.

Doctor Hodgson asked Worth M. Gross, M.D., Vice-Speaker of the House of Delegates to take the chair for the purpose of reading the *Necrology Report*. The House of Delegates stood during the reading of the report:

Clifford W. Allen, Jr., M.D., Tulsa
Charles M. Bielstein, M.D., Oklahoma City

Sims DuVall Beville, M.D., Poteau
Cyril E. Clymer, M.D., Oklahoma City

George A. Comp, M.D., Norman
W. H. Dersch, Sr., M.D., Oklahoma City

George A. DeTar, M.D., Miami
M. C. Etherton, M.D., Ellisville, Missouri

Raymond H. Fox, M.D., Altus
James G. Ghormley, M.D., Blackwell

Silas G. Hamm, M.D., Haskell
W. T. Hawn, M.D., Binger
Arthur A. Hellbaum, M.D., Ardmore

Harry H. Hudson, M.D., Enid
Dick H. Huff, M.D., Oklahoma City
Ralph E. Jones, M.D., Olathe, Kansas

William E. Jones, Sr., M.D., Seminole

Silas A. Lang, M.D., Nowata
Patrick H. Lawson, M.D., Marietta

James O. Lowe, M.D., Tulsa
Samuel A. McKeel, M.D., Ada
Oscar H. Miller, M.D., Ada

Chesley A. Morgan, M.D., Oklahoma City

John A. Morrow, M.D., Sallisaw
A. S. Nuckols, M.D., Ponca City.
J. L. Patterson, Sr., M.D., Duncan
Presse M. Paul, Jr., M.D., Oklahoma City

James G. Phillips, M.D., Oklahoma City

John T. Price, M.D., Seminole
Louis H. Ritzhaupt, M.D., Guthrie
Thomas R. Roberts, M.D., Tulsa
William H. Shipman, M.D., Bartlesville

Delbert O. Smith, M.D., Tulsa
Leo L. Smith, M.D., Oklahoma City
Murl P. Springer, M.D., Tulsa
A. G. Weber, M.D., Goltry
Manford S. White, M.D., Gentry, Arkansas

William T. Wright, M.D., Jay
Richard Wyrick, M.D., Oklahoma City

Doctor Gross announced that the Oklahoma Medical Political Action Committee would hold a meeting following the adjournment of the Closing Session of the House of Delegates and urged those having an interest in this organization to attend the meeting.

Doctor Gross announced he would entertain a motion to adjourn the opening session of the House of Delegates, and that the closing session would convene at 9:00 a.m., tomorrow, May 15th.

Samuel R. Turner, M.D., Tulsa, moved to adjourn the opening session. The motion was duly seconded and carried.

The meeting adjourned at 11:40 a.m.

CLOSING SESSION

The closing session of the 59th Annual Session of the House of Delegates was called to order by the Speaker, C. M. Hodgson, M.D., at 9:15 a.m. in the Tulsa Assembly Center, Tulsa, Oklahoma.

The Speaker introduced Mr. Dwight F. Whelan, Associate Executive Secretary of the association, who asked the Delegates to contact their state senators regarding the association's opposition to State Senate Bill 421 and its support of State Senate Bill 473.

Doctor C. Riley Strong, Chairman of the Credentials Committee, reported a quorum present.

The first item on the agenda of the closing session was the Reference Committee Reports.

REFERENCE COMMITTEE No. IV.

Presented by Avery B. Wight, M.D., Enid, Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

Item 1. Report of the Council on Insurance. Your committee recommends the approval of this report.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (A copy of the report is attached and made a part of these minutes.)

Item 2. Report of the Council on Public Health. The committee recommends approval of the report with the following deletions and additions under Section V:

On page 6, paragraph A, change the first sentence to read as follows:

"The Committee has been concerned with the fact that some maternal deaths occur as a result of a lack of family planning services in some areas and in some socio-economic groups in our population."

On page 9, delete statement number 7.

On page 10, change paragraphs one and two, under the first recommendation to read as follows:

"1. The committee recommends that the OSMA House of Delegates approve the explanation and policy statement relating to human reproduction and population control which is consistent with the one adopted in December, 1964, by the AMA House of Delegates and subsequently, which was approved on February 4, 1965, by the OSMA Board of Trustees.

"2. The committee further recommends that physicians throughout the state be encouraged to support this activity in terms of advice, assistance and referral of appropriate patients to authorized health depart-

ment agencies; provided, however, that before implementation of any such program, in any given area, approval must first be obtained from the local county medical society."

On page 10, change paragraph 5 to read as follows:

"*Recommendations:* The committee strongly recommends that it be authorized to determine the cause of these deficiencies in supply of blood and take remedial action."

On page 11, under question 1, the committee recommends an affirmative answer.

On page 11, in answer to question 2, the reference committee recommends that the Maternal Mortality Committee have each case reviewed by a specialist selected by the committee to review hospital records and directly interview all physicians involved; provided, such a procedure is approved by the OSMA legal counsel.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 3. Resolution No. 3. The committee recommends the disapproval of this resolution since its intent is more than adequately covered in the content of Section V of the Report of the Council on Public Health.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 4. Resolution No. 9. The committee recommends the following paragraph be added after the last paragraph of the resolution:

"BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Governor and to the entire membership of the Oklahoma State Senate and the House of Representatives."

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.

Mr. Speaker, I wish to take this opportunity to thank the members

of the committee and Mr. Whelan, who worked so diligently on all these resolutions and reports.

REFERENCE COMMITTEE No. III.

Presented by Samuel R. Turner, M.D., Tulsa, Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

Item 1. Resolution No. 2. Your reference committee recommends the approval of this resolution.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 2. Resolution No. 4. It is the feeling of your committee that this is not a function of the Oklahoma State Medical Association; and, therefore, recommends this resolution be disapproved.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 3. Report of the Council on Socio-Economic Activities. Section I. (Public Welfare and Crippled Children's Study Committee.) Your committee recommends the approval of this section, with the following additions and deletions:

Amend paragraph c, on page 9, by changing the words "75 per cent" to read "100 per cent"; insert the words "both medicine and" between the words "for" and "surgery" and delete the remainder of the paragraph; and add a paragraph d, to read as follows:

"d. The Oklahoma State Medical Association and the Department of Public Welfare shall review biennially the fee schedule with the idea of bringing the schedule to a realistic level."

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Section II. (Dependents' Medical Care Program.) Your committee recommends the approval of Section II, and makes the following recommendations:

1. That the Oklahoma State Med-

ical Association approach the Department of Defense relative to negotiating a new contract with regard to the care of armed services dependents.

2. That this contract be reviewed annually.

3. That a three-party contract be made, designating Blue Shield as fiscal agent.

Thomas C. Points, M.D., Oklahoma City, moved to amend the committee's report by changing the word "approach" to "answer" in recommendation No. 1. H. E. Denyer, M.D., Bartlesville, seconded the motion and it carried.

Mr. Speaker, I move the adoption of this portion of the report as amended. The motion was seconded and carried.

Section III. (Prepaid Medical Care Committee.) Your committee feels this section of the report should be amended by changing the composition of the Task Force (paragraph G) as follows:

"Oklahoma State Medical Association (one of the three representatives shall serve as permanent chairman)

3 representatives

Oklahoma Hospital Association

2 representatives

Blue Cross and Blue Shield

2 representatives

Appointment by the Governor (one representing Industrial Management, one representing Labor, and one representing the Farmers)

3 representatives

State Health Department

1 representative

Oklahoma Osteopathic Association

1 representative

Hayden H. Donahue, M.D., Norman, moved that a physician-member from the Department of Mental Health be included on the Task Force. Nolen L. Armstrong, M.D., Oklahoma City, seconded the motion and it failed to pass. Vote: Ayes: 32—Nays: 47.

Bob J. Rutledge, M.D., Oklahoma City, moved that the House of Delegates make it imperative that one of the Governor's appointments be a physician-member from the Mental Health Department. Cecil Stansbery, M.D., Oklahoma City, seconded the motion.

Alpha Johnson, M.D., El Reno, offered the following substitute motion: I move one of the three Oklahoma State Medical Association representatives be a physician-member of the Mental Health Department. Ross Deputy, M.D., Clinton, seconded the motion and it carried.

Robert L. Loftin, M.D., Broken Bow, moved to change the wording of the Task Force from "Blue Cross and Blue Shield" to "Health Insurance Underwriters." The motion was seconded, but failed to pass.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Section IV. (Occupational Medicine Committee.) Your committee recommends the approval of this section with the following amendments:

Amend the second paragraph on page 20, by inserting the word "possibly" between the words "School" and "utilizing," and by inserting the words "which may be" between the words "facilities" and "available."

Amend the fifth paragraph on page 20, by inserting the words "as well as other qualified rehabilitation centers now being planned in the Oklahoma City area"; delete the words "concurs with its announced purposes, and urges"; and make the last sentence in the paragraph read, "Corresponding endorsements by the association's House of Delegates is urged."

Add a recommendation No. 3, on page 20, to read as follows:

"3. That the Council on Socio-Economic Activities initiate an Industrial Medicine Committee to study the advisability of setting up a board of physicians to review Workmen's Compensation cases."

Frank Clark, M.D., Ardmore, moved that the words "in the Oklahoma City area," be changed to read "in Oklahoma." Alpha Johnson, M.D. seconded the motion and it carried.

Mr. Speaker, I move the adoption of this portion of the report as amended. The motion was seconded and carried. (Copy Attached)

Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.

Mr. Speaker, the reference committee is most appreciative of the mem-

bers who appeared before our committee. I wish to take this opportunity to thank the members of the committee who worked so diligently on all of the reports and resolutions, and we are greatly indebted to our secretary, Miss Martina Doyle.

REFERENCE COMMITTEE No. 1.

Presented by Vernon D. Cushing, M.D., Oklahoma City, Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

Item 1. President's Report. The reference committee receives the report of the President and recommends that the very excellent suggestions therein contained be transmitted to the new administration for its consideration this coming year.

Mr. Speaker, I move the adoption of this action of the reference committee. The motion was seconded and carried. (Copy Attached)

Item 2. Trustees' Report: The committee recommends approval of the Board of Trustees' Report.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 3. Treasurer's Report: It is the opinion of the reference committee that the special assessment passed by the House of Delegates on February 28, should continue to be maintained in a special fund and that it should be specifically designated in keeping with the original intent of educating the public concerning medical legislation. Therefore, we recommend that the second recommendation be changed to read as follows:

"It is recommended that the February 28 special assessment be maintained in a fund designated for educational activities concerning medical legislation."

Mr. Speaker, I move adoption of this portion of the report, as amended. The motion was second and carried. (Copy Attached)

Item 4. Report of the Council on Professional Education. The commit-

tee recommends approval of the report.

Mr. Speaker, I move adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 5. Report of the Financial Aid to Education Committee. The committee recommends approval of this report.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 6. Resolution No. 5. The reference committee recommends approval of this resolution.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 7. Resolution No. 11. The committee concurs in the intent of this resolution, but suggests that the last paragraph be amended to read as follows:

"NOW, THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association extend its thanks and appreciation to the Shepherd Foundation and to the Misses Edith and Lottie Shepherd for this important contribution in assisting future physicians to obtain an education."

Mr. Speaker, I move adoption of this portion of the report, as amended. The motion was seconded and carried. (Copy Attached)

Item 8. Report of the Constitution and Bylaws Committee. The committee wishes to commend the Constitution and Bylaws Committee for its many, many hours of hard and diligent work put into rewriting the Constitution and Bylaws. Particularly, it wishes to commend the Chairman, Doctor George Garrison, for his time and devotion to this project. The reference committee read the proposed new Constitution and Bylaws section by section and in so doing found numerous instances where possible improvements could be made. These were concurred in by the Chairman of the Constitution and Bylaws Committee, as well as other members of this committee who were present at the reference committee

hearing. The magnitude of the problem soon indicated to the reference committee that it was absolutely impossible to incorporate all desirable amendments and have the material processed for presentation at today's session of the House of Delegates.

Therefore, it is the recommendation of Reference Committee No. I, that the report of the Constitution and Bylaws Committee be accepted in part, bringing before the members of the House of Delegates those specific items which were given to the Constitution and Bylaws Committee to incorporate in the new Constitution and Bylaws. It is the desire of the reference committee that it be re-appointed to serve throughout this coming year in working with the Constitution and Bylaws Committee to draft in final form all of the changes which should be made, but which time precluded at this session.

At the conclusion of these sessions, it is our recommendation that a constitutional convention be called in order that the House of Delegates may consider in detail all of the changes which will be proposed at that time. It is anticipated that the final draft of the Constitution and Bylaws will incorporate many of the excellent suggestions made by the Constitution and Bylaws Committee.

Your committee recommends that the following changes be acted upon by the House of Delegates at this meeting today, May 15:

Amendment No. 1: Strike Sections 4.03 through 4.032 of Chapter IV of the present Bylaws and substitute therefor Sections 8.03 through 8.036 of Chapter V of the Bylaws recommended by the Constitution and Bylaws Committee, to read as follows:

"4.03 JUDICIAL AUTHORITY. The judicial power of the association shall be vested in the Board of Trustees, whose decision on behalf of this association shall be final.

"4.031 ORIGINAL JURISDICTION. The Board of Trustees shall have original jurisdiction in: (a) All questions involving the interpretation of the Constitution and Bylaws of this association; (b) All controversies involving ethics or arising under this Constitution and Bylaws to which the

Oklahoma State Medical Association is a party; (c) All controversies between two or more component societies, or between a component society and a member of another component society; (d) All matters where a showing is made that an objective forum cannot be obtained or has not been obtained in a component society, based upon the motion of a member of the Board of Trustees which is supported by a majority of Trustees present; and (e) All matters of professional conduct properly referred to the Board of Trustees by the Grievance Committee as set forth in Chapter IX of these Bylaws.

"4.032 DELEGATION OF AUTHORITY. The Grievance Committee of the association shall be the investigating committee of the Board of Trustees on matters involving judicial decision. The Board of Trustees, in its discretion, may refer appropriate complaints or controversies to the Grievance Committee for investigation under the rules governing Grievance Committee procedure; and it shall receive and act upon matters properly brought to its attention by the Grievance Committee. In either instance where the Grievance Committee becomes involved in a problem of original jurisdiction, it shall report its findings and recommendations to the President, and shall prefer and prosecute any charges before the Board of Trustees.

"4.033 APPELLATE JURISDICTION. The Board of Trustees shall have appellate jurisdiction for this association in all cases arising between a component society and one or more of its members. Notice of appeal shall be filed with the Board of Trustees in writing within 30 days of the date of the decision by the component society, and the appeal shall be perfected within 60 days from the date of notice.

"4.034 MEETINGS, RULES OF PROCEDURE. The Board of Trustees may function in judiciary capacity at any annual or called meeting. It shall enact its own rules of procedure for hearing and disposing of cases of original or appellate jurisdiction; provided, however, that all parties to a controversy, includ-

ing the Grievance Committee and the Board of Trustees, are entitled to legal counsel, adequate notice of charges, adequate notice of hearing, and the right of cross-examination.

"4.035 PENALTIES. In carrying out its responsibilities involving problems of original association jurisdiction, the Board of Trustees may penalize any member of the association who has been found guilty of unprofessional conduct, ethical or organizational violations, by: (a) Official written reprimand to the member and written notice to the officers of his component medical society; (b) Suspension from membership for a fixed period of time; (c) Termination of membership; (d) The reporting of gross offenders to the Oklahoma State Board of Medical Examiners; or (e) Any appropriate combination of such penalties. When acting in an appellate capacity, the Board of Trustees may affirm, reverse or render such judgment as should have been rendered by a component society.

4.036 APPEALS TO THE AMERICAN MEDICAL ASSOCIATION. Judicial decisions of the Board of Trustees may be appealed to the Judicial Council of the American Medical Association in accordance with that organization's Constitution and Bylaws. In such event, the decision of the Board of Trustees shall not be suspended pending the appeal to the AMA Judicial Council."

Amendment No. 2: Strike Section 3.00 through 3.013 of Chapter IX of the present Bylaws and substitute therefor Sections 7.00 through 7.07 of Chapter X of the proposed Bylaws recommended by the Constitution and Bylaws Committee, to read as follows:

"Section 3.00 GRIEVANCE COMMITTEE. The Grievance Committee shall consist of the last five living Past-Presidents who are residing in the State of Oklahoma. The senior member from the standpoint of service shall be chairman.

"3.01 COMPLAINTS. The Grievance Committee shall investigate all complaints referred to it directly by the complainant or by the Board of Trustees, provided all complaints to

be considered must be submitted in writing and be signed by either the complainant or the presiding officer of the Board of Trustees. In addition to complaints which may be referred to the Grievance Committee for investigation by the Board of Trustees, as provided in Chapter V, Section 4.032 of these Bylaws, the committee may receive and investigate all complaints presented in writing by any person or organization concerning the ethical or professional conduct of any member of the association.

"3.02 PURPOSE. It shall be the purpose of the Grievance Committee to mediate complaints to the mutual satisfaction of the complainant and the accused physician, and to thereby enhance public or intraprofessional relations.

"3.03 JURISDICTION. The committee may assume original jurisdiction in all complaints properly presented to it, or it may refer such complaints directly to the Board of Trustees or to the Grievance Committee or Board of Censors of a component medical society.

"3.04 RULES OF PROCEDURE. The committee shall enact its own rules of procedure, provided that the accused physician shall receive full notice of the complaint, and shall be given the opportunity of a full hearing on the substance thereof, including the right of cross examination.

"3.05 PHYSICIAN COOPERATION. Full cooperation with the Grievance Committee is mandatory upon every member of the association. Willful failure of a member to communicate satisfactorily with the committee, or failure to appear before the committee when summoned, or disregard of committee recommendations toward the solution of a problem, shall be considered sufficient cause for the committee to refer a record of such conduct to the Board of Trustees with recommendations for appropriate disciplinary action.

"3.06 DISPOSITION OF CASES. After the investigation and deliberation of a complaint, the committee shall have a choice of one of the following dispositions: (a) To dismiss the case because of insufficient grounds, and to so advise the com-

plainant and the accused physician; (b) To attempt to mediate the complaint to the satisfaction and understanding of all parties concerned; (c) To recommend corrective actions on the part of the accused physician, requiring satisfactory evidence of compliance within a reasonable length of time; or, (d) In the absence of other satisfactory alternatives, to refer the case to the Board of Trustees, together with a complete record and recommendations for appropriate disciplinary measures.

"3.07 PROSECUTION. All cases referred by the committee to the Board of Trustees for disciplinary purposes must be supported by complete information on prior proceedings, full documentation of the facts of the case, formal charges, and recommendations for disciplinary penalties. The Grievance Committee shall designate one or more of its members to present the case to the Board of Trustees. Cases referred by the Board of Trustees to the Grievance Committee for investigation shall be returned to the Board of Trustees expeditiously, together with a report of the findings and recommended disposition. In the event the recommended disposition involves a request for disciplinary action, the Grievance Committee shall file charges and prosecute the case as described above."

Amendment No. 3: Amend Section 1.00, Chapter VIII of the existing Bylaws by adding the name of the Council on Professional and Intervocational Relations.

Amendment No. 4: Amend Chapter IX of the existing Bylaws by creating a new Section 4.00, and by redesignating all following sections in proper numerical sequence. The new Section 4.00 shall read as follows:

"Section 4.00 FINANCIAL AID TO EDUCATION COMMITTEE. The committee shall be comprised of the president, president-elect, and the three immediate past-presidents of the association residing in the State of Oklahoma.

"4.01 DUTIES. The committee shall be responsible for management of the association's loan and scholarship funds for students of the Uni-

versity of Oklahoma School of Medicine. In addition, the members of this committee shall also serve as the Board of Directors of the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated."

Amendment No. 5: Amend Chapter XI of the existing Bylaws to add a new Section 12.00, to read as follows:

"Section 12.00 DUAL MEMBERSHIP. Membership in more than one component medical society is prohibited unless the petitioning member can demonstrate justifiable need to the Board of Trustees. In cases where special dispensation may be granted by the Board of Trustees, a physician will be carried on the official association roster for the component society of his predominant medical practice, and all dues and assessments for the Oklahoma State Medical Association shall be collected through this component society. Any disciplinary or official action taken by one component society shall be binding on the other component society and on this association, in accordance with these bylaws. For purposes of determining a component society's representation in the House of Delegates, the physician with dual membership shall only be counted in the component society of his predominant medical practice."

Amendment No. 6: Amend Chapter I of the existing Bylaws by striking Section 4.022 and substituting therefor the following new Section 4.022:

"4.022 RIGHTS AND PRIVILEGES. Such members shall have full rights and privileges of association membership, but shall not be required to pay dues or assessments."

Amendment No. 7: Amend Chapter XIII of the existing Bylaws by striking the word "annual" wherever it appears.

E. K. Norfleet, M.D., Norman, moved to amend the committee's report by amending the existing Bylaws to read as follows:

"A majority of the members of the House of Delegates shall constitute a quorum at any annual or called meeting." Thomas C. Points, M.D.,

Oklahoma City, seconded the motion and it carried.

Mr. Speaker, I move the adoption of this portion of the report as amended. The motion was seconded and carried.

Mr. Speaker, I move the adoption of this report as a whole. The motion was seconded and carried.

Mr. Speaker, I wish to take this opportunity to thank the members of this committee who worked so diligently on all of these resolutions and reports. In particular, I wish to thank Mr. Don Blair, who worked with me into the early hours of the morning in order that this material might be presented today.

REFERENCE COMMITTEE No. II.

Presented by Robert L. Loftin, M.D., Broken Bow, Chairman.

Mr. Speaker and Members of the House of Delegates:

Your reference committee gave careful consideration to the items referred to it and makes the following report:

Item 1. Resolution No. 1. Your reference committee recommends adoption of this resolution with the suggested changes in wording in the subject of the resolution from "Voluntary Billing for AMPAC and OMPAC Dues" to "Billing for Voluntary AMPAC and OMPAC Dues"; in the fourth "WHEREAS," delete the word "voluntary"; in the "RESOLVE," change the words "approve the voluntary billing" to "approve the billing of voluntary." (In other words, "voluntary" as used in this resolution refers to voluntary payment of the bills.)

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 2. Report of the Council on Public Policy. Your committee recommends the approval of this report as submitted.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 3. Report of the Council on Interprofessional Relations. The Council. Your committee recommends this section be approved.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Medical-Legal Relations. Your committee recommends the following amendments:

On page 4, line 1, insert the word "Recommendation:" after the word "year"; and delete the word "However" at the beginning of the next sentence.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Committee on Nursing. The committee recommends this section be approved.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Medicine and Religion Committee. Your committee recommends this section be approved.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Committee on Pharmacy. Your committee recommends this section be approved.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Committee on Osteopathy. Your committee recommends the following changes in this section:

On page 12, line 1 of paragraph 2, insert the word "indirectly" between the words "statutes" and "provide"; on page 13, line 2, delete the last sentence of the paragraph and substitute the following:

"The committee does not believe that a degree and licensure in the separate profession of Osteopathy represent in themselves appropriate qualifications for postgraduate study in a different health discipline."

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 4. Resolution No. 8. Your committee recommends the approval of this resolution.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 5. Resolution No. 10. Your committee passes this resolution on

to the House of Delegates without comment, but recommends the title be changed to "The AMA Anti-Medicare Campaign."

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried.

Item 6. Resolution No. 7. Your committee recommends the approval of this resolution.

Mr. Speaker, I move the adoption of this portion of the report. The motion was seconded and carried. (Copy Attached)

Item 7. Resolution No. 6. Your committee endorses and supports in principle the Bauer Statement which was adopted by the American Medical Association in 1961, and which states:

"The House of Delegates believes that the medical profession will see to it that every person receives the best available medical care regardless of his ability to pay; and it further believes that the profession will render that care according to the system it believes is in the public interest; and that it will not be a willing party to implementing any system which we believe to be detrimental to the public welfare."

Your committee further reiterates the oft expressed fact that we are opposed to increased governmental control and participation in private medicine for those people who can afford such care.

Further, that inasmuch as no specific bill has been passed by the Congress and signed into law by the President as yet; and that we feel the situation is too fluid to justify specific action on our part at this time;

THEREFORE, BE IT RESOLVED, that action on Resolution No. 6, entitled "non-participation" be deferred until such time as specific legislation is passed by Congress, and it is recommended that at a suitable time, if such legislation passes, the House of Delegates be reconvened for specific action on this matter.

Mr. Speaker, I move the adoption of this resolution concerning this report. The motion was seconded by Rex E. Kenyon, M.D., Oklahoma City, and Francis A. Davis, M.D., Shawnee, and it carried.

Mr. Speaker, I move the adoption of the report as a whole. The motion was seconded and carried.

Mr. Speaker, I wish to thank the members of this committee who worked so diligently on all of these resolutions and reports. I also wish to thank our secretary, Mrs. Dixie Griffith.

Joe L. Duer, M.D., Woodward, moved to approve Resolution No. 10. Joe E. Tyler, M.D., Tulsa, seconded the motion and it carried. (Copy Attached)

The House of Delegates recessed at 10:45 for ten minutes.

When the House reconvened, the Speaker announced the next order of business would be the election of officers.

Joe L. Duer, M.D., moved to elect E. M. Gullatt, M.D., Ada, President-Elect by acclamation. The motion was seconded and carried.

Since the election of Doctor Gullatt left a vacancy on the Board of Trustees, the following motion was made:

C. Riley Strong, M.D., moved to suspend the rules to allow members of Trustee District 12 to select a nominee for this position. Ross Deputy, M.D., seconded the motion and it carried.

Members of Trustee District 12 were allowed to caucus for ten minutes.

Rex E. Kenyon, M.D., moved to elect Wylie G. Chesnut, M.D., Miami, to the office of Vice-President by acclamation. G. B. Gathers, M.D., seconded the motion and it carried.

Francis A. Davis, M.D., moved to elect Malcon E. Phelps, M.D., El Reno, Delegate to the American Medical Association by acclamation. F. W. Hollingsworth, M.D., seconded the motion and it carried.

A ballot with the names of the nominees for the office of Alternate Delegate to the American Medical Association was distributed to the Delegates by the Tellers.

Thomas C. Points, M.D., Oklahoma City, was voted Alternate Delegate by a vote of 65 to 32.

Frank W. Clark, M.D., Ardmore, nominated Orange M. Welborn, M.D., Ada, for the office of Trustee from Trustee District 12. David Ramsay,

M.D., Ada, seconded the motion and it carried.

The Speaker announced the next order of business would be the election of Trustees, and the following physicians were elected by acclamation:

DISTRICT 1:

H. E. Denyer, M.D., Bartlesville, and Minor E. Gordon, M.D., Claremore.

DISTRICT 4:

John X. Blender, M.D., Cherokee, and Walter H. Dersch, Jr., M.D., Shattuck.

DISTRICT 7:

Jerold D. Kethley, M.D., Shawnee, and E. K. Norfleet, M.D., Norman.

DISTRICT 10:

Thurman Shuller, M.D., McAlester, and C. S. Cunningham, M.D., Poteau.

DISTRICT 12:

Orange M. Welborn, M.D., Ada (To fill the unexpired term of Doctor E. M. Gullatt).

DISTRICT 13:

W. R. Cheatwood, M.D., Duncan, and J. T. Hicks, M.D., Lawton.

E. H. Shuller, M.D., McAlester, suggested that the House of Delegates commend the City of Tulsa and the Tulsa County Medical Society for their hospitality during this annual meeting.

Vernon D. Cushing, M.D., Oklahoma City, moved to commend Howard A. Bennett, M.D., Tulsa, Chairman of the Annual Meeting Committee, and Harlan Thomas, M.D., Tulsa, OSMA President, for their work in planning the 59th Annual Meeting; also, C. M. Hodqson, M.D., Kingfisher, Speaker of the House of Delegates, for the expeditious way in which he has conducted the meeting of the House of Delegates. The motion was seconded and carried.

The 59th Annual Session of the House of Delegates adjourned at 11:40 a.m., May 15, 1965.

Recorded by Martina Doyle

Report of
THE PRESIDENT
(REFERRED TO THE NEW ADMINISTRATION FOR CONSIDERATION)

Mr. Speaker, Delegates, Distinguished Guests, Ladies and Gentlemen. It is my distinguished pleasure

to be allowed to address the House of Delegates of the Oklahoma State Medical Association. My purpose here today is not to provide you with a chronological report of the activities of the Oklahoma State Medical Association nor to apprise you of all my activities for the year, but I come to you with my attitudes gained as your president during the past year.

The content of the problems and discussions which face this House do not differ materially from those of many previous sessions. Last year, the year before, even five or ten years ago, the discussions and the problems were similar. However, the moment of truth may be more near. The time has come that we must face the issues squarely and realistically, without emotionalism and without equivocation. Your attendance here is not as an individual doctor from your county societies, but as a policy-making body which must do all possible to insure the best future for medicine in Oklahoma. As a member of this House of Delegates, you do not have the prerogative to act selfishly toward the sole interest of your county, you must be objective. We must all try to see the future.

It is my firm conviction that the preservation of the practice of medicine, as we know it today, will almost be impossible. The fact that our entire free enterprise system of medical care is in jeopardy from many quarters is well known to all of you. Not only do I, at this time, intend to discuss with you "Medicare and Its Effects" but, from what I have observed this year, a second enemy which I am convinced is the greatest threat to our system of medical care exists within our own profession. If the medical profession would mold itself into a cohesive unit, if we could forget our petty differences and inter-disciplinary misunderstanding, if we could each accept the other for his own worth and competence, if we could present a united front of 286,000 doctors, there is no outside pressure that we could not withstand.

Even though we have seemed to have spent the last year fighting "Medicare" and that we may have seemed to have failed in our efforts, I feel that this is not necessarily so. With the united effort of a few, we have won a victory of a sort. The effort put forth after this House passed the assessment to finance a program was most gratifying. We know that our legislators received 3,500 to 4,000 pieces of mail weekly from people contacted by the medical community. We have proven that no other group can muster so much support on such short time. The battle has not ended and possibly may never end.

One thing I do feel very strongly about is the final result of our negotiations for agreements with those that will administer the new programs that will now be started. Medicine contended, and rightly so, that we had a good workable program and we have sacrificed to make it work. Nevertheless, a new type of program is being started against our advice and I would recommend that this association take a firm stand in their negotiations for agreements with those in charge of these imposed programs. I feel that we should insist on a realistic pay contract, not at a discount. It is not our responsibility to make a poor program work at a major sacrifice to our members. We must insist on a realistic fee for services rendered. I would further recommend that any agreement be negotiated on a yearly basis with our association having the prerogative of acceptance or rejection of any offers or changes made.

Even before the passage of "Medicare" a second attack has started. It is my belief that implementation of the report of the President's Commission on Heart Disease, Cancer and Stroke will put the government in the direct provision of medical services to the people. As you know, the report includes thirty-five recommendations covering five general areas. Grouped generally, the five areas are:

1. A national network of regional centers for patient care, research and teaching in heart disease, cancer and stroke.

2. Application of medical knowledge in the community.
3. Development of new knowledge.
4. Education and training of health manpower.
5. Additional facilities and resources.

Legislation has already been introduced into congress which, if adopted, will establish regional centers and improve libraries. With but little thought, you can see that a sea of amendments can make it impossible for "Free Medicine" to live and compete with this! The emotional appeal to the public of this type of program is tremendous and it will be difficult for legislators to slow down action on bills introduced to accomplish the recommendations in this report; a report, by the way, made by a group of medical doctors. Many have asked: What could be the motivation of this group? Do they curry special favor as the leaders when socialization does come? Can they sincerely desire government medicine? I won't attempt to answer these questions, but I'm sure their interest is not all in medicine.

I would like to pay special tribute to Mr. Don Blair and all of our headquarters staff for the loyal and dedicated effort that they continuously put forward in handling of the association's business. They never seem to tire. They give their week ends, holidays and leisure time to the work of our councils and committees. Our investment in the purchase of their abilities and time is most wise. May I digress here to recommend that Mr. Blair be given an increase in salary, this year, as a reward for a job much more than "well done."

Over all, I feel that this has been a successful year for OSMA. Our councils and committees have worked harder and our Board of Trustees has handled the business of the association promptly and judiciously in every instance. Membership participation has been at an all-time high. Your officers have attempted to handle the affairs of state as we felt the majority of you would like. I hope that we have not failed. I would like to make one recommendation in regard to the welfare of your

future officers. The association should carry an accident insurance policy, in the appropriate amount, made payable to the family of the officer, should he be killed or maimed while in the pursuit of association business. Many miles are driven during a year and we have been most fortunate not to have had a major tragedy. Our luck may not hold.

As you can see, gentlemen, our path has not been smooth and you can be assured that it will not be in the near future. I re-emphasize that we cannot afford the luxury of factionalism. There can be no specialists for specialists, GP for GP or Cap versus town. The survival of one will be contingent on the effort and survival of all. As I recently heard in an address, the Paul Revere story might be a useful guide to action in a complex modern society. It was all so wonderfully simple, you see. He saw danger, he sounded the alarm, the people awakened to the crisis. In the big and complex society such as ours, however, the modern Paul Revere is seldom heard in the confusion of voices. When he sounds the alarm no one answers. If he persists, people put him down as a controversial character. Then one day an incident occurs that confirms his warnings. The member that had refused to listen to the warnings now rushes to the window, puts his head out and cries, "Why doesn't someone tell me these things?"

Well, the crisis is upon us.

The call is out and we may have to do many things that we feel strongly about. However, this House of Delegates has the tools necessary to achieve solutions to any of our problems. Regard not lightly the problems before you in this session. They are weighty and complex and the decisions made by you may well effect the destiny of Oklahoma medicine for years to come. You are in a position of planning the future, and the future will not be ignored.

May I end by quoting the great American, Abraham Lincoln:

"The dogmas of the quiet past are inadequate for the stormy present.

We must think anew, we must act anew, we must disenthral ourselves."

Report of the
BOARD OF TRUSTEES
(APPROVED)
BOARD ACTIONS

Four meetings of the Board of Trustees were held during the past year. In addition to surveying the progress of all association activities, the Board took the following actions:

1. Several repair projects for the association headquarters building were authorized, and it was also decided to apply asphalt surfacing to the parking lot. Among the repair items were: Repairing plaster cracks throughout the building; re-plastering the entire ceiling area; painting the entire interior of the building; replacing water-damaged flooring; and, refurbishing planters in the central foyer and general office area.

No major repairs had been made to the building since its construction in 1956. Funds for the repair projects and parking lot paving, totalling \$4,988.40, were withdrawn from savings.

2. A sum of \$5,000.00 was withdrawn from association savings and contributed to the educational fund of the Oklahoma Medical Political Action Committee. The legality of this contribution was acknowledged by the legal counsels of the AMA, the American Medical Political Action Committee, and the OSMA legal counsel.

3. The Board of Trustees received a letter from General H. W. Doan, Executive Director of the Office of Dependents' Medical Care, inviting the association to renew its contractual relationship with his office in the policy administration of the health care program for dependents of servicemen. (The OSMA terminated its agreement with the federal government on this program in 1958 following the Department of Defense's unilateral amendments to a contract which had been renegotiated only shortly before. Although the OSMA House of Delegates severed the association's official participation in

the program, Blue Cross-Blue Shield remained as the fiscal administrator in Oklahoma and physicians have been free to participate as individuals.)

Since the House of Delegates entered into the contractual relationship in the first place, and since it was the House of Delegates which terminated the contract on September 21, 1958, the Board of Trustees advised General Doan that his letter would be referred directly to the House of Delegates for action. General Doan's letter is contained in the Report of the Council on Socio-Economic Activities.

4. A resolution was approved by the Board of Trustees in opposition to a reported effort by the American Medical Association to raise its dues to \$100.00 a year.

5. The Board nominated three physicians as candidates for one position on the State Health Department's Hospital Advisory Council (William C. McCurdy, M.D., Purcell, was subsequently appointed); the Board nominated three physicians as candidates for one position on the Department of Public Welfare's Crippled Children's Advisory Committee (R. M. Wadsworth, M.D., Tulsa, was subsequently appointed).

6. A "Job Classification, Description, and Salary Schedule" was prepared by the Executive Secretary at the Board of Trustees' request. This document defines the duties and qualifications of all full-time personnel, and establishes a procedure for salary increases and maximums.

7. The Board authorized the Executive Secretary and the Executive Committee to employ additional personnel, but action has been deferred due to an imbalance between the salary requests of public relation's specialists and the association budget.

8. An invitation from the Blue Shield Board of Trustees to conduct a joint meeting between the respective Boards of Trustees was approved by the OSMA Board (meeting held January 10, 1965).

9. Since the incoming President of the association needs to be well-informed concerning national issues and AMA parliamentary procedure,

the Board of Trustees authorized the travel expenses of the association's President-Elect to attend the annual meeting of the House of Delegates of the American Medical Association (policy effective May 1, 1965).

10. The Board supported a joint project with the Oklahoma Chapter, American Academy of General Practice, to furnish a physician-staffed first aid station at the capitol building every day during the current legislative session.

11. The Board approved sponsorship of the Oklahoma Junior Chamber of Commerce (\$100 annual sustaining membership), the Oklahoma City Chamber of Commerce (\$50 annual membership), the Essay Contest of the Governor's Committee on Employment of the Handicapped (\$250 to the teacher of the first place essayist), and Oklahoma Christian College's Annual Freedom Forum (\$100 tuition for a high school teacher).

12. The Board approved 50-year Pins for F. P. Robinson, M.D., Pond Creek, P. L. Hayes, M.D., Vinita, and D. O. Smith, M.D., Tulsa.

13. Upon the recommendation of the Prepaid Medical Care Committee, the Board authorized the committee to present a detailed proposal to the House of Delegates concerning a major health economic survey to be conducted in cooperation with the Oklahoma Hospital Association and Oklahoma Blue Cross-Blue Shield.

14. Upon recommendation of the Maternal Mortality Study Committee, the Board approved the recommended policy statement on Human Reproduction prepared by the committee and directed that it be presented to the House of Delegates for its endorsement.

15. The Board approved the joint recommendations of the Public Welfare Committee and the Crippled Children's Study Committee regarding priorities for equitable compensation for physicians' services rendered under the programs administered by the Department of Public

Welfare (see Report of the Council on Socio-Economic Activities).

16. The Board authorized the Council on Public Policy to conduct the necessary campaign to promote the AMA-sponsored Eldercare Bill as an alternative to Medicare; OSMA delegates to a special AMA meeting on the subject were instructed by the Board of Trustees to support amendments to the Eldercare Bill which would provide for a minimum level of benefits.

17. The Board has approved 1966 annual meeting dates of May 12-15 (Oklahoma City's Skirvin Hotel) and, for 1967, the dates of May 11-14 were approved (Tulsa's Assembly Center and Mayo Hotel). The House of Delegates is asked to concur in these commitments.

MEMBERSHIP

The following membership figures are reported as of this date:

Dues-Paying Members	1,777
Applications Pending	47
Honorary-Life Members	130
Junior Members	33
Associate Members	6
	<hr/>
Total	1993

Honorary-Life Memberships have been requested by county medical societies for the following physicians:

Henry S. Browne, M.D., Tulsa
J. Hoyle Carlock, M.D., Ardmore
Arthur H. Davis, M.D., Tulsa
J. G. Ghormley, M.D., Blackwell (Posthumously)
P. L. Hayes, M.D., Vinita (Posthumously)
John C. Perry, M.D., Tulsa
Franklin P. Robinson, M.D., Pond Creek
Ruric N. Smith, M.D., Tulsa
William O. Smith, M.D., Tulsa
O. C. Standifer, M.D., Elk City
J. P. Vansant, M.D., Dewey
Roxie A. Weber, M.D., Stillwater
M. M. Wickham, M.D., Norman
Stanley F. Wildman, M.D., Okla- homa City
J. F. York, M.D., Madill

Report of the TREASURER

(APPROVED AS AMENDED)

This report contains an estimated financial statement for the fiscal year ending May 31, 1965, and a budget for the next fiscal year.

The estimated financial statement and its related statements generally reflect major aspects of the association's financial condition, based upon actual income and expense for the first eleven months of the fiscal year and estimates for the month of May. An audit will be performed as of May 31, 1965, and the Audit Committee will furnish certified copies to all members of the House of Delegates.

The budget serves as a guide for anticipated association expenditures during the next fiscal year. It was prepared in consultation with the President-Elect.

Comments:

1. The predicted deficit of \$2,261.00 has been brought about by two transactions which were not anticipated when last year's budget was prepared. First, on July 26th, the Board of Trustees authorized a \$5,000.00 contribution to the educational fund of the Oklahoma Medical Political Action Committee. Secondly, on the same date, the Board authorized major building repairs and improvements totalling \$4,988.40 (\$2,537.00 was charged as expense, while parking lot paving was designated as a capital improvement).

Although funds used for these purposes were taken from association savings, accepted accounting procedure required that all but the paving be charged as operating expenses.

Thus, if these transactions had not occurred, the association would have shown an operating surplus for the year of more than \$5,000.00, as compared to a budgeted surplus of \$1,648.98 (1964-65 budget).

2. Income has been enhanced during the past year by \$1,200.00, which was earned through the purchase of certificates of deposit. Deferred income from dues was used for this purpose.

3. The budget for the coming organizational year anticipates an approximate break-even balance between income and expenses. The recommendation contained in the Report of the Council on Socio-Economic Activities for a major health economic survey will, if approved, require at least partial financing from association savings in addition to adjustments in the budget herewith presented.

4. The special assessment approved by the House of Delegates on February 28, 1965 was earmarked for an educational campaign in the Eldercare Bill vs. Medicare Bill is-

sue. However, the House of Delegates left no instructions as to the disposition of any remaining balance. The assessment funds on hand are presently on deposit in a separate checking account.

As can be seen from the financial statement, 423 members of the association have not paid the assessment despite two separate billings from the OSMA. The present association bylaws do not provide any specific language regarding delinquency.

Recommendations:

1. It is recommended that the budget for 1965-66 be approved by the House of Delegates as a guide to

the incoming administration (subject to adjustments as may be required by the effect of other House of Delegates actions).

2. It is recommended that the February 28th special assessment be maintained in a fund designated for educational activities concerning medical legislation.

3. It is recommended that the February 28th special assessment be declared delinquent by this House of Delegates as of June 1, 1965, and that membership in the association be suspended for all physicians who have not paid the required assessment by July 1, 1965.

FINANCIAL STATEMENT
(Estimated for Year Ending May 31st, 1965)

INCOME

Membership Dues	\$82,996.00
Scholarship and Loan Fund (from dues)	8,369.00
Journal—Adv., Pd. Subs. and Subs. from Dues	34,750.00
Membership Directory (sales)	350.00
Annual Meeting	10,800.00
Interest from Savings	3,289.00
Initiation Fee	2,426.00
Miscellaneous (AMA Commission)	700.00
Postgraduate Courses	1,280.00
Grants to Council on Public Health	2,065.00
AMA Grant—Eldercare Education	4,625.00

TOTAL INCOME \$151,650.00

EXPENSE

Fixed Expenses (Schedule A)	\$66,627.00
Depreciation	2,066.00
Councils and Committees:	
Public Policy	\$14,788.00
Insurance	81.00
Professional Education	2,964.00
Socio-Economic Activities	45.00
Public Health	3,149.00

21,027.00

Scholarship and Loan Fund (from dues)	8,369.00
In-State-Travel	1,164.00
Out-State-Travel	7,993.00
Contribution to OMPAC (from savings)	5,000.00
Journal Expense	31,665.00
Annual Meeting	10,000.00

TOTAL EXPENSE \$153,911.00
DEFICIT (\$2,261.00)

SPECIAL ASSESSMENT
(Approved by the House of Delegates, February 28th, 1965)

Cash on Hand	\$ 4,889.00
Expenditures	15,331.00
Uncollected (423 members)	6,345.00

Balance (incl. a/c recv.) \$11,234.00

Schedule A—FIXED EXPENSES
(Estimated for Year Ending May 31st, 1965)

Salaries	\$36,500.00
Payroll Tax	1,750.00
Pension Costs	2,511.43
Office Supplies	3,525.00
Auditing	560.00
Legal	1,202.00
Postage	4,519.00
Telephone and Telegraph	2,550.00
Dues and Subscriptions	778.00
Equipment Repair and Service	375.00
*Insurance	1,730.44
Miscellaneous and Student AMA Banquet	1,291.30
Utilities	2,300.00
Staff and Officers Expense	1,400.00
Women's Auxiliary	225.00
Lawn Supplies	75.00
Services	1,150.00
Awards and Contributions	885.00
Equipment Rental (Postage Meter)	184.49
Janitor Supplies	135.00
**Building Maintenance and Repair	2,965.00
Shipping	15.00
	<hr/>
	\$66,627.06

<i>*Insurance</i>	<i>Annual Premiums</i>
Blue Cross/Blue Shield	\$1,078.80
Workmen's Compensation	165.31
Multi-Peril/Liability	486.33
	<hr/>
	\$1,730.44
<i>**Major Building Repairs (withdrawn from savings)</i>	
Plastering	\$1,150.00
Painting	1,158.00
Planters	229.00

SAVINGS

Ponca City Building and Loan	\$10,000.00
Lawton Home Savings and Loan	10,000.00
Bartlesville Home Savings and Loan	10,000.00
Tulsa Federal Savings and Loan	10,000.00
Oklahoma City Federal Savings and Loan	7,595.22
Earned Interest—5/31/65	1,011.40

BUDGET

(For the fiscal year ending May 31st, 1966)

INCOME

Membership Dues	\$83,000.00
Scholarship and Loan Fund (from dues)	8,400.00
Journal Advertising; Paid Subscriptions, and Subscriptions from dues (\$3,500.00)	36,000.00
Membership Directory Advertising and Sales	2,000.00
Annual Meeting	10,000.00
Interest from Savings	3,500.00
Initiation Fees	2,400.00
Miscellaneous (AMA Commissions)	700.00
Postgraduate Courses	1,500.00

TOTAL INCOME	<hr/>	\$147,500.00
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EXPENSES

Fixed Expenses	\$64,000.00
Depreciation	2,100.00

Councils and Committees:

Public Policy	\$13,000.00
Insurance	500.00
Professional Education	3,000.00
Socio-Economic Activities	1,000.00
Public Health	500.00
Interprofessional Relations	1,000.00

	19,000.00
Scholarship and Loan Fund (from dues)	8,400.00
In-State-Travel	1,400.00
Out-State-Travel	7,500.00
Journal Expense	32,500.00
Annual Meeting	10,000.00
Membership Directory Printing	1,800.00

TOTAL EXPENSE \$146,700.00

NET SURPLUS \$ 800.00

Report of the COUNCIL ON SOCIO-ECONOMIC ACTIVITIES

(APPROVED AS AMENDED)

Council Members

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E. H. Shuller, M.D., McAlester
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homa City

Committees of the Council are:

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E. H. Shuller, M.D.
B. C. Chatham, M.D.
Stanley R. McCampbell, M.D.
George H. Garrison, M.D.
Thomas W. Taylor, M.D.

Crippled Children's Study Committee

C. Riley Strong, M.D., Chairman
G. R. Russell, M.D.
Thurman Shuller, M.D.
James W. Kelley, M.D.
A. T. Baker, M.D.
Robert P. Holt, M.D.
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Prepaid Medical Care Committee

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Charles M. O'Leary, M.D.
John R. Scott, M.D.
Earl McBride, M.D.
Robert L. Lembke, M.D.
Port Johnson, M.D.

SECTION I

Public Welfare and Crippled Children's Study Committees

The activities and recommenda-
tions of the Public Welfare Commit-
tee and the Crippled Children's Study
Committee are interrelated, since
both groups involve liaison with the
Department of Public Welfare.

On February 4, 1965, a joint report
from the aforementioned committees
was approved by the Board of Trus-
tees, as follows:

A. Restoration of Fees, Categorical Assistance Medical Care Pro- grams:

The Oklahoma State Medical As-
sociation entered into an agreement
with the Department of Public Wel-
fare in 1957 to provide medical serv-
ices to all four categories of public
assistance recipients (Old Age As-
sistance, Blind, Totally and Perman-

ently Disabled, and Dependent Chil-
dren). In 1960, with the passage of
the Kerr-Mills Law, the category of
Medical Assistance for the Aged was
added under the same compensation
terms.

A fee schedule was approved at the
inception of the program and con-
sidered fair and reasonable by both
parties. Although liberalizing changes
were made during the formative
years of the program, the fee struc-
ture stabilized itself at the rate of
75 per cent of the surgical fees of-
fered by the Dependents' Medical
Care Program and, for inpatient med-
ical services, the rate was estab-
lished at \$5.00 a day for fifteen days
(\$75.00 maximum).

However, growth in utilization by
welfare recipients, combined with the
assignment of new financial respon-
sibilities to the Department of Pub-
lic Welfare, made it necessary to en-
act cutbacks in levels of compensa-
tion to all health care vendors. At
the present time, surgeons are only
paid 63.75 per cent of the original
schedules and compensable inpatient
medical care has been cut to \$15.00
the first day and \$5.00 a day for the
next four days (\$35.00 maximum).

Since 1963, the association and the
Department of Public Welfare have
been seeking ways and means to re-
store the compensation rates to form-
er levels. Moreover, hospitals and
nursing homes have experienced sim-
ilar cutbacks and have also worked
toward the goal of equitable com-
pensation.

B. Payment for Physicians' Services to Crippled Children:

The Oklahoma statutes authorize the Public Welfare Commission to provide "... payment for physicians' and dentists' services if payment is recommended by the Council (Board of Trustees) of the Oklahoma State Medical Association or the Executive Council of the Oklahoma Dental Association."

In 1963, the OSMA House of Delegates stated it was "not opposed" to physician payment. Upon receipt of this statement, the Welfare Department's Advisory Committee on Medical Care for Crippled Children advised the association that sufficient funds were not available to pay physicians without curtailing other program services, and recommended that the association form a study committee on the subject. The OSMA study committee was appointed immediately.

As a result of this study, and after a joint meeting with the Welfare Department's Advisory Committee, the association's committee recommended to the House of Delegates in May of 1964 that a positive request for payment be made and that the association cooperate with the Department of Public Welfare in seeking necessary funds to accomplish the objective. The committee's recommendation was approved by the House of Delegates and transmitted to the Department of Public Welfare's advisory committee.

On November 5, 1964, the chairman of the association's Crippled Children's Study Committee, Doctor C. Riley Strong, and the OSMA Executive Secretary, Mr. Don Blair, were invited to meet with the Welfare Department's crippled children's advisory group. In addition, the Dean of the University of Oklahoma School of Medicine, Doctor James L. Dennis, was asked to appear.

Doctor Dennis reported that \$1,237,309 was earned last year by University Hospitals through the Crippled Children's program, as compared to a total operating budget for the hospitals of \$2,800,450. Although

he expressed sympathy with the intent of the OSMA request, he said there was a strong possibility that payment of physicians would curtail referrals to Children's Memorial Hospital and thereby jeopardize the school's teaching program, and perhaps bankrupt the University Hospitals.

Furthermore, Doctor Dennis said that his biennial budget request had already been sent to the governor, and no allowance was made in it for this contingency.

Doctor Strong and Mr. Blair commented that the medical school's problem had not been raised during the 17-month period of negotiations, and it therefore constituted a new problem which had not been considered previously by the House of Delegates.

However, since he did not have authority to rescind the House of Delegates action, Doctor Strong asked the advisory committee to give the association a definite answer concerning the request for payment.

On January 19, 1965, the OSMA was advised that the Welfare Department's Advisory Committee on Medical Care for Crippled Children had ruled that payment for physicians' services was not financially feasible at this time, and the matter was referred back to the OSMA study committee for further consideration.

C. Financial Status of the Department of Public Welfare:

On January 24, 1965, the Oklahoma State Medical Association's Public Welfare Committee and Crippled Children's Study Committee met in joint session to consider the interlocking problems of achieving fair and reasonable rates of compensation for services rendered by physicians under the health care programs operated by the Department of Public Welfare.

Guests included representatives of the Department of Public Welfare and the chairmen of its advisory committees for both the adult's and children's medical care programs. Also, Dean James L. Dennis, M.D., attended the meeting.

It was learned at the meeting that the Department of Public Welfare

may reasonably expect to have additional funds during the next biennium due to the predictable growth in sales tax revenues and through increased funds from the federal government. The precise amount of new funds cannot be definitely determined, but it is expected that all or part of the payment cuts for health care services can be restored during the next biennium and that sufficient funds will be available during this period to begin payment to physicians for care of crippled children.

If rates of compensation are to be restored for the adult and children's medical care programs, and if physicians are to be paid for services to crippled children, new funds will be needed in the following approximate amounts:

- \$2,300,000—To restore physicians' fees to previous levels.
- \$1,600,000—To restore hospital rates to prime cost levels.
- \$1,000,000—To restore nursing home rates.
- \$ 250,000—To restore hospital rates for Crippled Children's care.
- \$1,000,000—To pay physicians for Crippled Children's care.

\$6,150,000 Total Per Year

Therefore, according to projections on future revenue and estimates of necessary costs to improve the program, it is clear that the financial situation will be improved. From the financial standpoint, such improvements could be gradually realized during the next biennium, provided the current Oklahoma Legislature does not assign new responsibilities to the Department of Public Welfare or otherwise reduce available income for maintenance of the health care programs.

(The expected passage of Medicare legislation will vastly change the health economic picture in Oklahoma. Not only will the hospital portion of the Medicare Bill relieve the Department of Public Welfare of financial commitments to persons over age 65, but other liberalizing amendments to the existing Kerr-Mills program will provide additional federal

matching funds for the state-operated program. Moreover, the passage of Medicare will require the solution of many new problems involving policy decision on the part of the association, so in the event of Medicare passage, the House of Delegates may expect to have multiple meetings during the Summer and Fall of 1965 regarding organized medicine's policy on the many complexities of the Social Security health care plan. No recommendations are contained in this report regarding OSMA reaction to Medicare. The bill is not law at this writing, and even after passage it will be necessary for the Department of Health, Education and Welfare to develop myriad regulations before OSMA involvement can be accurately measured.)

D. Consideration for the University of Oklahoma School of Medicine:

The association's Public Welfare Committee and Crippled Children's Study Committee share the concern of medical school and welfare department officials regarding the impact the payment for physicians' services to Crippled Children may have on the financial structure of the medical center, and are equally concerned over the effects such a policy change may have on the number and quality of teaching cases.

However, it is recognized that most acute cases are being cared for elsewhere at the present time, and the OSMA committees are not convinced that payment of physicians would necessarily affect the referral load of Crippled Children's cases to Children's Memorial Hospital.

Further, since full-time O.U. faculty members are now caring for about one-half of all Crippled Children's cases, the change in payment policy could result in increased revenue for the Medical Center through the assignment of professional fees to departmental trust funds.

The teaching program of the school, insofar as the variety of teaching cases involving "crippled children" is concerned, can be controlled through periodic solicitation of needed cases from hospitals surrounding Oklahoma City.

The quality of care rendered to qualified children is not thought to

be a valid objection to paying physicians for their services, since the principle is well established that all Oklahoma physicians are to be paid for the care of medically indigent adults. It is felt that complicated cases will still be referred to Children's Memorial Hospital.

As an additional observation, the OSMA committees feel very strongly that the Dean of the University of Oklahoma School of Medicine should not be hamstrung financially by overwhelming dependency on the income produced by the Crippled Children's program. Nevertheless, the achievement of compensation for services rendered under the Crippled Children's program does not necessarily mean that a decrease in revenue to University Hospitals will automatically follow.

E. Recommendations:

The Public Welfare Committee and the Crippled Children's Study Committee have been assigned definite responsibilities by the House of Delegates, including the acquisition of equitable compensation for vendors of health services for the adult beneficiaries of the Department of Public Welfare, and for payment of physicians' services under the Crippled Children's program.

In considering the complexities of these interlocking goals, the committees have uncovered new problems which tend to convert a black-and-white directive into shades of gray. In addition to these problems, as outlined above, your committees recognize that financial equity for the vendors of health services cannot be obtained in a single step, and priorities should be established regarding the attainment of improved compensation.

Therefore, the following recommendations are made:

1. The Oklahoma State Medical Association, acting through its appropriate committees, officers and staff, should support the Department of Public Welfare in its efforts to maintain programs for the care of the medically indigent at levels sufficient to provide adequate care for qualified recipients and reasonable rates of compensation for vendors

of health services. Such support should include necessary and appropriate appearances before committees and/or leaders of the House of Representatives and the Senate.

2. The Oklahoma State Medical Association, through its Board of Trustees, extends its support to the Dean of the University of Oklahoma School of Medicine, and volunteers to actively assist in reappraising the financial structure of the Medical Center, formulating recommendations for its improvement, and in working toward the attainment of these recommendations. Such recommendations should include the development of adequate legislative financial support, free from dependency upon earned income for services rendered under Oklahoma's programs for the medically indigent.

3. Regarding compensation for services rendered to medically indigent persons for the Department of Public Welfare, the Oklahoma State Medical Association seeks the following adjustments, in order of priority:

- a. Hospitals should receive compensation at rates permitting the recovery of their prime costs of operation.

- b. Physicians should receive payment for professional services rendered through the Crippled Children's program, at the presently existing rates of compensation authorized by the Department of Public Welfare for its adult programs. Immediate steps should be taken cooperatively by the Department of Public Welfare, the University of Oklahoma School of Medicine, and the Oklahoma State Medical Association, to devise a plan which will accomplish this objective without endangering the financial structure of Children's Memorial Hospital. Such plan should be implemented as quickly as funds are available, but no later than the beginning of the next biennium.

- c. As funds become available, physicians' fees for both adult and child care should be increased to 100 per cent of the fee schedule employed by the Dependents' Medical Care Program, for both medicine and surgery.

d. The Oklahoma State Medical Association and the Department of Public Welfare shall review biennially the fee schedule with the idea of bringing the schedule to a realistic level.

SECTION II DEPENDENTS' MEDICAL CARE PROGRAM

On June 8, 1964, the association received a letter from Major General H. W. Doan, Medical Corps, Executive Director of the Office for Dependents' Medical Care, Denver, Colorado. General Doan recommended that the association reconsider its 1958 withdrawal from its former contractual arrangement with his office.

The letter was presented to the association's Board of Trustees on July 26, 1964, but the Board voted to refer the matter directly to the House of Delegates.

Following is the full text of General Doan's letter. It is submitted to the judgment of the House, with no recommendations from either the Council on Socio-Economic Activities or the Board of Trustees:

Joe L. Duer, M.D., President
Oklahoma State Medical Association
Woodward, Oklahoma

Dear Doctor Duer:

"Recently (25 May 1964) Doctor Russell B. Roth, Chairman, Committee on Federal Medical Services of the American Medical Association, addressed a letter to the presidents of all of the state medical associations, calling attention to the excellent Dependents' Medical Care Program enacted in 1956 by Public Law 569 of the 84th Congress and more familiarly known as the Medicare Program.

"I am pleased that Doctor Roth pointed out the stability and comparatively smooth operation which this Program has now achieved with few, if any, complaints from individual physicians, or from state medical associations. His Committee feels, and I fully agree, that this stability and acceptance of the Program has resulted from the active participation of the majority of the state medical associations in the Medicare contracts for their respec-

tive states. It is because of this strong conviction and the additional benefits that derive to the state physicians that I am writing to you today to ask that you consider reaffiliation with our Program through contractual agreement.

"Formal affiliation with ODMC may be either by a 2-party or 3-party contractual relationship, whichever is preferred. In the 2-party contract the medical society pays the claims submitted by its local physicians, whereas in the 3-party contract a fiscal agent is appointed by the medical society to act for it in this regard. In either event, the state medical society has a continuing and current knowledge of the medical practice of its membership, a most valuable asset.

"The foregoing of itself in the eyes of many state medical societies amply justifies formal affiliation with ODMC. However, there are other very tangible benefits also. Not the least of these is the voice afforded the local medical profession in the establishment of ODMC allowances, a cardinal principal in our annual negotiations. ODMC endeavors to follow the precedent established by the local practice of medicine. Moreover, affiliation assures the state medical profession a very important voice in the local adjudication of disputed or unusual claims thereby enhancing fair and equitable reimbursement for medical services rendered.

"As for the state association, affiliation has permitted it to act as a very effective intermediary between the individual physician and ODMC, a Federal agency, in obtaining clarification, interpretation or revision of policies. As a formal affiliate the society is also furnished current information by ODMC concerning the Program for its membership.

"In my view, the attributes to formal affiliation enumerated help to insure the integrity of the private and local practice of medicine which we endeavor to support in every possible way. Consequently, I am hoping that my letter will cause the few remaining state medical associations, such as your own, to give serious

consideration to rejoining us in support of the defense establishment in what has proven to be an outstanding program, made so by each individual physician and state medical association participating in it.

"If you and your medical society are favorably disposed to my suggestion, I will be happy to arrange a meeting between our representatives and yours at a mutually convenient time and place."

Sincerely,

/s/ H. W. DOAN

Major General, MC, USA
Executive Director

Recommendations: (House of Delegates)

1. That the Oklahoma State Medical Association answer the Department of Defense relative to negotiating a new contract with regard to the care of armed services dependents.
2. That this contract be reviewed annually.
3. That a three-party contract be made, designating Blue Shield fiscal agent.

SECTION III PREPAID MEDICAL CARE COMMITTEE

The committee began the organizational year by encouraging physician-participation in the national Blue Shield Test of Performance Survey. The purpose of the survey is to measure the adequacy of Blue Shield plans by comparing the amount of Blue Shield payments to billed charges for selected medical and surgical services. National and state results of this survey are being consolidated now, and will be presented to the association in the very near future.

In other liaison activities, representatives of the Prepaid Medical Care Committee were guests of Blue Shield at its Annual Program Conference in Chicago, and met with the Oklahoma Blue Shield Board of Trustees during its Fall Conference at Western Hills Lodge. As a result of the Western Hills meeting, a joint Board of Trustees meeting between Blue Shield and the OSMA was held on January 10th.

The committee, on recommendation of the Oklahoma Chapter, American

Academy of General Practice, also approved the publication of a Blue Shield folder to promote public understanding of prepayment plans and physicians. This folder is to be printed in quantity by Blue Shield for mass distribution through physicians' offices and hospitals.

At the request of the Blue Shield Board of Trustees, the committee nominated the following physicians as candidates for appointment to three positions on the Blue Shield Board: Alfred T. Baker, M.D., Durant; Eugene S. Bell, M.D., Tishomingo; Francis R. First, M.D., Checotah; George H. Garrison, M.D., Oklahoma City; Maurice C. Gephardt, M.D., Muskogee; James H. Hohl, M.D., Ada; Frank J. Martin, M.D., Ada; Thurman Shuller, M.D., McAlester; and, Orange M. Welborn, M.D., Ada.

(George H. Garrison, M.D., Thurman Shuller, M.D., and Orange M. Welborn, M.D., were subsequently appointed.)

At the request of the Blue Cross Board of Trustees, the committee nominated the following physicians as candidates for appointment to two positions on the Blue Cross Board: William M. Benzing, Jr., M.D., Tulsa; Hugh M. Connor, M.D., Cyril; Robert R. Hills, M.D., Lawton; Roy A. Lawson, M.D., Tulsa; Wayne A. Starkey, M.D., Altus; Paul T. Strong, M.D., Tulsa; Harlan Thomas, M.D., Tulsa; and James H. Tisdal, M.D., Clinton.

(Paul T. Strong, M.D., and James H. Tisdal, M.D., were subsequently appointed.)

The most significant project of the Prepaid Medical Care Committee involves a proposed effort to thoroughly study the health economic scene in Oklahoma for the purpose of improving the quality and quantity of protection of our citizens against the costs of illness.

A plan was presented to the association's Board of Trustees on February 4th and received general approval

for submission to this House of Delegates.

Following is an explanation of the proposed project as well as recommendations for implementation:

A. *The Problem:*

1. Financing the cost of health care lies at the root of the most major problems now confronting the medical profession; i.e. *Legislation and Public Relations*.

2. Voluntary health insurance protects only 77 per cent of the national population, and much of this protection is of inferior quality. In Oklahoma, the percentage of coverage is even less.

3. Government interest in this problem is growing, as evidenced by the following figures from the Department of Health, Education and Welfare: (See table below.)

4. More than 30 million Americans, almost one-sixth of the population, are now eligible for treatment in federal hospitals or clinics. In addition, the three levels of government now finance the health care of nearly 17 million others.

5. The predicted passage of Medicare will add 18 million more American citizens to the federal health care rolls. Moreover, the passage of other proposed federal programs will convert additional millions of persons to the responsibility of government as well as impose multi-billions in new expense upon the taxpayer.

6. Unless voluntary health insurance and prepayment plans are perfected to the highest possible degree, medical economic gaps will occur to a limited degree, and the federal government will rush in to an excessive degree. When pending federal legislation is considered, and when future legislative activity is contemplated, it is reasonable to predict that medical practice in a free and competitive society will be virtually eliminated within ten to fifteen years.

B. *Objective:*

1. A program must be developed immediately which will provide high-quality health care protection to all citizens of various economic strata. Voluntary prepayment plans must develop new programs and innovations with which to assure responsibility for a majority of the populace: government's role must be limited to assisting those persons unable to help themselves; the providers of health services must invoke new and improved economy measures.

2. Through a combination of offering excellent prepayment programs to the majority of the population at economical prices and an intensive, continuing health economic education program, it can and must be demonstrated to the public that free enterprise can perform more efficiently than government in the health care field.

3. The medical profession, and other providers of health and economic services, must recapture the initiative for health care planning.

4. A superior product must be offered—the voluntary way—and the cost must be reduced to the point where government is discouraged from competing. With the accomplishment of this objective, government's role may be properly confined to a supportive position.

C. *Importance of Blue Cross-Blue Shield:*

1. Blue Cross and Blue Shield were founded by physicians and hospitals, and have maintained effective and beneficial liaison with the providers of health services throughout the years. To date, commercial health insurance companies have not developed programs to provide professional guidance.

2. The most efficient and public-minded prepayment mechanism in the United States is provided by Blue Cross-Blue Shield. (The Blues' brokerage fee of approximately 10 per cent has not been generally matched by commercial health insurance companies, nor have these commercial companies responded to the needs of the entire population in the manner of Blue Cross-Blue Shield.)

3. The medical profession should recognize the Blue Cross-Blue Shield

Year	Private Spending	Government Spending*	Total	Government %
1935	\$ 2.6 billion	\$.5 billion	\$ 3.1 billion	17.8%
1950	9.1 billion	3.1 billion	12.2 billion	25.4%
1960	20.4 billion	6.4 billion	26.8 billion	23.8%
1964	26.4 billion	9.0 billion	35.4 billion	25.5%

*Federal, State and Local

record of public and professional service, and should name this proven prepayment mechanism as the preferred fiscal agent for managing the economic aspects of providing comprehensive health services to the population on a mass enrollment basis.

D. Oklahoma Plan:

1. The Oklahoma State Medical Association, working with Blue Cross-Blue Shield, the Oklahoma Hospital Association, and the consuming public, can develop a prototype program which will not only be successful in this state, but will also be adaptable on a nationwide basis.

2. The problem is so important, so fraught with myriad complexities, and time is so short, that its solution must be given the highest possible priority by the interested organizations and the consumer public.

3. A joint project must be initiated immediately for the purposes of studying Oklahoma's health economic character, identifying areas of unmet need, and effecting solutions through an expanded employment of the mass-enrollment techniques of Blue Cross-Blue Shield. The study should encompass a critical self-appraisal by the providers of health services, to ascertain shortcomings as they relate to the cost of services, and to develop internal corrective policies.

4. The project should be managed by a task force of professional, hospital, prepayment plan and consumer representatives. It should be completed within one year. Financial and staff support should come from the sponsoring groups, but a full-time research staff should also be employed to find information and prepare reports upon which intelligent decisions may be based.

5. The public must be kept well-informed on the depth of the survey project, and on existing and projected plans to offer low-cost, comprehensive health protection programs to the vast majority of Oklahomans through full utilization of the non-profit prepayment mechanism.

6. Planning should include the creation of a non-governmental surveillance activity designed to assess the performance of Oklahoma's private health care industry on a year-by-year basis. A continuing health education program should be coordinated with this effort in order that Oklahomans can measure the value of the prevailing system as compared to alternate programs for providing health services to the general public.

E. Procedure of Implementation:

1. The Oklahoma State Medical Association, the Oklahoma Hospital Association, and Oklahoma Blue Cross-Blue Shield should immediately seek necessary internal policy decisions which will authorize the formation of a joint task force to set the project in motion without undue delay (both the Oklahoma Hospital Association and the Oklahoma Blue Cross-Blue Shield have approved the joint project).

2. Included in these policy decisions, should be the recognition that other organizational activities must be suspended or subordinated during the first year of the study effort in order to focus full power upon an objective of supreme importance.

3. Upon House of Delegates approval, the OSMA will assume leadership in organizing an intensive task force project through the combined effort of professional, hospital, Blue Cross-Blue Shield and consumer representatives.

4. At the completion of the one-year task force study, the OSMA House of Delegates will consider the immediate activation of recommended plans to improve the economic aspects of health care in Oklahoma.

Oklahoma State Medical Association
(One of the three representatives shall serve as permanent chairman)
Oklahoma Hospital Association
Blue Cross and Blue Shield
Appointment by the Governor

State Health Department
Oklahoma Osteopathic Association

F. Nature of Study:

1. Survey the extent of prepaid protection for the entire Oklahoma population, based on income brackets within county boundaries:

a. Determine the percentage of the population protected, within each income bracket and by total county population.

b. Determine the percentage of the population not protected by prepayment plans but otherwise protected by government, private resources, etc.

c. Determine the percentage of the population unprotected by any known source.

2. Survey the quality of prepayment protection for the entire population, based on income brackets within county boundaries:

a. Determine the percentage of medical and hospital bills paid by various types of prepayment plans.

b. Determine the average cost of an illness for a period requiring hospitalization.

c. Classify and analyze the major forms of prepayment protection plans.

3. Conduct public opinion survey:

a. Determine public opinion regarding costs and benefits of prepayment plans.

b. Determine public opinion regarding the cost and services of hospitals and doctors.

4. Conduct professional opinion survey:

a. Determine reaction of health care professions and the health care industry toward the product design of prepayment plans, and obtain recommendations for improvement.

G. Task Force:

1. Composition (See table below)

3 representatives	
(One to be selected from the Mental Health Department)	
2 representatives	
2 representatives	
3 representatives	
(One representing Industrial Management; one representing Labor; and one representing the Farmers)	
1 representative	
1 representative	

2. Function of Task Force:

a. Draft a clearly defined S.O.P. for the operation of the survey and related subjects.

b. To acquire the services of a qualified health economics research organization to work fulltime in providing necessary information to the Task Force.

c. Consolidate survey findings and formulate recommendations for improvement of the health economic situation in Oklahoma.

d. Study and make recommendations for reducing health care costs to the irreducible minimum.

e. Study and make recommendations for the solution of problems involving the supply and distribution of health personnel and facilities.

f. Develop an effective public information program during the period covered by the survey.

g. Formulate a plan for a continuing public information program in the field of health economics.

H. Cost:

1. After consultation with the economic research departments of Oklahoma University, Oklahoma State University, and the University of Chicago, it was determined that a survey of this type can be conducted in a comprehensive manner for an estimated cost of \$50,000 to \$75,000. If such funds are later to be found unavailable in this quantity, the scope of the project will be adjusted accordingly.

2. It is expected that the three sponsoring organizations, plus private industry, will contribute equally to the cost.

I. Recommendations:

1. It is recommended that the House of Delegates approve the health economic survey as described in this section of the report.

2. It is recommended that the Board of Trustees be empowered to implement the project, and to make necessary financial commitments, provided such commitments are within the association budget.

SECTION IV

OCCUPATIONAL MEDICINE COMMITTEE

A. Committee Reactivated:

The Occupational Medicine Committee was reactivated this year as

a result of a directive from the OSMA House of Delegates last May. This committee had not been active the two years previous.

The principal reason for reviving this committee was to head off and discourage action by the Oklahoma Legislative Council in their expressed intent to establish a fee schedule for physicians' services under Workmen's Compensation.

Beginning last July, contact was made with members of the Legislative Council's Subcommittee on Workmen's Compensation. Continuing information and testimony were presented to the group which clearly revealed that in no instance had the establishment of a physicians' fee schedule measurably affected the economy picture of any Workmen's Compensation program.

In late September, the Legislative Council concurred in not fixing physicians' fees under Workmen's Compensation.

B. O.U. Residency Program in Occupational Medicine:

In other areas, the committee reviewed progress being made in the O.U. residency program in occupational medicine.

The newly created program provides only two years of training in occupational medicine. Residents must go out-of-state for their third year of training.

Tinker Field is indicated to be ideally suited to supply the third year of the residency program and economic assistance is indicated to be available through industrial grants to sustain a third year of training.

Recommendation:

The committee feels the third year of the O.U. residency program in occupational medicine should be encouraged by the O.U. Medical School, possibly utilizing the facilities which may be available at Tinker Field in Oklahoma City.

C. Physical Medicine and Rehabilitation:

The Occupational Medicine Committee feels there is a need for more activity in the area of physical medicine and rehabilitation. The committee is of the opinion that greater activity will not develop until a re-

habilitation center is constructed, preferably near the O.U. Medical Center complex, where it could enhance the teaching programs in physical medicine and occupational medicine. Such a complex should be headed by a physiatrist.

Current efforts are being made to establish the Oklahoma Rehabilitation Center in the Oklahoma City area. This project is designed to supplement the physical medicine programs of general hospitals, the medical and other health and welfare programs.

Recommendations:

1. The Committee on Occupational Medicine endorses the establishment of improved rehabilitation facilities at the University of Oklahoma School of Medicine, and specifically endorses the Oklahoma Rehabilitation Center, as well as other qualified rehabilitation centers now being planned in Oklahoma. Corresponding endorsements by the association's House of Delegates is urged.

2. The committee further recommends that this committee remain in operation for the purpose of serving Oklahoma medicine in the area of occupational medicine and its related interests.

3. That the Council on Socio-Economic Activities initiate an Industrial Medicine Committee to study the advisability of setting up a board of physicians to review Workmen's Compensation cases.

Report of the COUNCIL ON PUBLIC POLICY (APPROVED)

Council Members

Rex E. Kenyon, M.D., Chairman,
Oklahoma City
Worth M. Gross, M.D., Tulsa
David Carson, M.D., Fairland
Mark D. Holcomb, M.D., Enid
Charles Johnson, M.D., Bartlesville
M. H. Newman, M.D., Shattuck
Vernon D. Cushing, M.D., Oklahoma City
R. Q. Goodwin, M.D., Oklahoma City
E. H. Shuller, M.D., McAlester
Thomas C. Points, M.D., Oklahoma City
E. K. Norfleet, M.D., Norman
Paul B. Lingenfelter, M.D., Clinton

State Legislative Committee

Thomas C. Points, M.D., Chairman,
Oklahoma City

David C. Ramsay, M.D., Ada
Kieffer D. Davis, M.D., Bartlesville
Hayden H. Donahue, M.D., Norman
John A. Blaschke, M.D., Oklahoma
City

Raymond F. Hain, M.D., Oklahoma
City

SECTION I

COUNCIL ACTIVITIES

This council has dedicated its efforts diligently and almost singularly toward the defeat of Social Security financed Medical Care for the Aged, (H.R. 1, S. 1, H.R. 6675). Regrettably, the effort, though carefully planned and well implemented by members of the association, will most probably fail. The Mills Bill, H.R. 6675, a substitute measure embodying extensions to Kerr-Mills, the King-Anderson principle, and a voluntary system of supplemental benefits based on the Byrnes Bill, was reported out of committee and promptly passed the House of Representatives during the first week of March. All legislative samplings indicate that the bill will pass the Senate before July 1, 1965, by a substantial margin. The campaign in Oklahoma took the form of a re-vitalized "Operation Hometown," which had been used effectively during the past year.

Bolstered by a special assessment in February, this council designed, with the assistance of a local public relations firm, a public information program to acquaint the people of the State of Oklahoma with the advantages of the Herlong-Curtis Elder-care Bill and to warn against the inherent dangers of Social Security financed Medical Care. The response, both on the part of the profession and the public, was excellent. Our elected representatives reported that they were receiving from 300 to 500 letters a day from their constituents, most of which were opposed to the Social Security approach. It should be emphasized that the ultimate objective of any campaign of this type is to get letters into the hands of our Representatives and Senators in Washington; and in this regard we

succeeded, even beyond our own hopes. When the House vote on H.R. 6675 was taken, Mr. Steed, Mr. Jarman, and Mr. Belcher opposed the measure; the remaining three representatives of Oklahoma favored it.

During the year, several Congressional Contact Tours went to Washington. In organizing these tours, an attempt was made to assemble knowledgeable people, both from medicine and from other professions and businesses. Briefing sessions were held in Washington; and in all instances these delegates functioned admirably.

In addition to the regular Congressional Contact Tours, representatives of this council appeared on two separate occasions before committees of the United States Chamber of Commerce in an attempt to change their stated policy that "Social Security coverage should be extended to all segments of the population." While the committee seemed to be sympathetic, no change was made in the existing policy. A final attempt to accomplish this change was made on the floor of the House of Delegates of the United States Chamber of Commerce, where it failed.

The most recent Congressional Contact Tour visited Washington on May 3, 1965, seeking opposition to compulsory coverage of physicians under Social Security and further seeking opposition to the payment of professional services by radiologists, pathologists, physiatrists, and anesthesiologists under the hospital portion of H.R. 6675.

The annual County Officers' Conference was conducted in mid-February at the Huckins Hotel in Oklahoma City. Because of the greatened threat of Social Security medicine occasioned by the November 3rd elections, it was decided to make this conference an educational seminar on King-Anderson legislation. Donovan Ward, M.D., President of the American Medical Association, was the keynote speaker. Both the King-Anderson Bill and the Herlong-Curtis Bill were explained in detail; and measures for gaining public support of our position were outlined. The conference was well attended, and

certainly served as a stimulus for action.

State legislative activities will be submitted in a separate report written by Chairman Thomas Points, M.D.

In an attempt to foster recruitment of membership for the Oklahoma Medical Political Action Committee, representatives of this council met several times with representatives of the Board of OMPAC and its Executive Secretary. A number of plans were discussed and agreed upon. A series of small, private luncheons were held in Oklahoma City and Tulsa to which physicians were invited in small numbers and, after being educated on the objectives of OMPAC, were asked to enroll. On the whole, we found this approach was not effective.

In the field of public relations, the council must justify its lack of activity by the continuing and mounting pressures growing out of major legislative problems. Our association's sponsored health column, "A Message From Your Doctor," started last year, has continued to appear in fifty newspapers each week.

This council has worked with the State Health Department in its immunization-education program.

This council met with officers of the Student American Medical Association to discuss possible redirection of OSMA funds for the annual student banquet. The students were unanimous in their election to continue their annual banquet; and the same was accomplished at the time of the AMA Conference on Aging, held in Oklahoma City; so that Doctor Donovan Ward could serve as guest speaker for the banquet. The occasion was well attended; and the student association felt it was successful.

By direction of the President of the Oklahoma State Medical Association, this council drafted the rules and regulations to govern eligibility for the A. H. Robins' Physician's Award for Community Service, approved by the House of Delegates last year. Notice of the award and rules governing applications were sent to each medical society shortly after January 1, 1965; but no nomi-

nations were received by the state association office, so the project was suspended for 1965.

Recommendations:
The Council makes the following recommendations for consideration of the Board of Trustees and House of Delegates:

1. At least one annual Congressional Contact Tour should be made to Washington, D.C.

2. The annual County Officers' Conference should continue in January or thereafter at such time as is deemed expedient by the council.

3. Representatives of the council should continue to assist in the recruitment of membership for the Oklahoma Medical Political Action Committee, rendering whatever service they can within the limits of organizational definition with respect to the Oklahoma State Medical Association.

4. A separate committee, under the Council on Public Policy, should be appointed for the purpose of creating and implementing an effective public relations program. This committee should study the feasibility of employing a part-time public relations consultant, within the limitations set by the organizational budget.

5. The council compliments the State Legislative Committee on its effective approach in this area; and recommends continuation of their capable activities with such improvements as the committee deems necessary.

6. The council urges the leadership of the constituent county societies to nominate physicians as recipients of the A. H. Robins' Award, as an effective public relations mechanism.

7. The council recommends closer liaison with the Student American Medical Association for the purpose of informing tomorrow's physician on the legislative and social problems which face the profession.

Acknowledgment

The Chairman of the Council on Public Policy reluctantly relinquishes, with this meeting, the appointment he has held for the past three years. It has been a challenging, if not always a rewarding experience. The

contribution, large or small, of those hundreds of physicians and their wives, who served this council either directly or indirectly, is hereby acknowledged with sincerity and with deep personal gratitude. As the story unfolds, it would appear that we have fought only a delaying action. I regret that victory did not result from our dedicated effort. For what comfort it might bring you, we have learned much from this defeat—to the extent that, when its freedom is again challenged, medicine's response will be immediate and effective!

SECTION II
STATE LEGISLATIVE ACTIVITIES

The OSMA Committee on State Legislation has had an active year in attempting to represent the association before the State Legislature.

The committee has met on five separate occasions since December 10th for the purpose of evaluating and acting on legislation which in its opinion has been of significant concern to the practice of medicine or to its allied affiliates. In addition, various members of the committee as well as other medical practitioners have appeared before numerous Senate and House committee hearings to express their support or objections to particular legislative proposals.

To date, your Committee on State Legislation has reviewed 76 pieces of legislation introduced during the 30th Oklahoma Legislature. The OSMA *Journal* has consistently carried a status report on all bills since the session opened last January, and has advised the profession on specific matters through direct mailings.

Since it is impractical to take up your time by listing the content and status of 76 separate bills, the charts

below provide a statistical tabulation of bills considered to date by this committee.

Specifically, Chart A indicates the number of Senate and House bills reviewed and the respective positions assumed by the committee. Chart B indicates the current statistical status on the same 76 proposals—listing number of Senate and House bills passed, killed, or pending.

The committee highly commends the Oklahoma Chapter of the American Academy of General Practice for instigating and cooperating with the state medical society in staffing a "physician for the day" program during the 30th Oklahoma Legislature. A special medical treatment room, complete with emergency supplies and equipment, has been made available to the legislators. The physician's office and treatment room is located in the Capitol building—conveniently situated between Senate and House offices. Even though immediate or direct results may not be evident, the long range outlook is on the positive side.

Oklahoma medicine is fortunate to have two of its members serving in this Legislature. Richard Stansberry, M.D. in the Senate and John Drake, M.D. in the House, both of Oklahoma City, have assisted the committee and the OSMA Executive Office in coordinating legislation pertaining to medicine. We need more physicians from other areas of the state also.

The committee would have been unable to function if it had not been for Don Blair and Dwight Whelan. They are our officially registered lobbyists. However, they and organized medicine need the help of many physicians to testify, button-hole, edu-

CHART A
SENATE BILLS HOUSE BILLS

Bills Committee Supported	16	13
Bills OSMA Initiated	6	5
Bills Committee Opposed	6	2
Bills Receiving No Position	19	20

CHART B
PASSED KILLED PENDING
Senate House Senate House Senate House

Bills Supported	9	4	3	7	6
Bills Initiated	4	1	1	2	3
Bills Opposed			1	6	1
Bills Receiving No Position	2	2	6	17	12

cate, entertain, and tell medicine's views to the elected legislators.

There has been and is a definite trend from Washington filtering down to the state legislatures all over the United States . . . that this is the year to pass laws limiting or making mandatory certain practices of medicine. A great many of these laws or bills this session are those in which the rule of the mind has been superseded by that of emotions.

Every physician in the state should keep himself informed on all the bills pertaining to medicine, not just those which may affect him. This session has seen a preview of what may very well be trial balloons for further expansion: (1) The bill to license psychologists; and (2) The bill to allow only trained professional persons to fit contact lenses. Now, if you are not a psychiatrist or an ophthalmologist, you probably will say, "So What?" It may be only a few sessions of the Legislature away until bills could be introduced to license midwives and only they would be allowed to deliver normal cases; that chiropodists would be the only ones allowed to treat all foot ailments; that oxygen-therapists would be the only ones allowed to treat respiratory ailments; that x-ray technicians would be the only ones allowed to treat by radiation; or, that pharmacists would be the only ones allowed to decide which medicine is right for a particular disease after the physician has made a diagnosis.

Should all of these bills be introduced at once, all of medicine would unite and fight; but one at a time, we say: "That's Joe's field, let him worry about it." Just remember, if you have this attitude, then, what will prevent "Joe" from letting you do your own worrying when your restrictive bill comes up before the Legislature?

The Legislature functions year-in and year-out through the activities of the Legislative Council, which investigates possible legislation between regular sessions.

Bills can be pre-filed before the Legislature convenes. Therefore, it

is imperative that we, individually and as an association, keep informed of the Legislative Council's fields of interest, so there will be a chance for communication and consultation before bills are drafted and introduced.

The Oklahoma Medical Practice Act is outdated, outmoded and in need of redefinition. There has been recodification of many statutes in other fields such as public health and higher education. Should this recodification of the Medical Practice Act be done, it will take a great deal of work and thought by many others besides our Executive Office staff and a few physicians. Do not recommend it unless you consider yourself available to help.

Recommendations:

The State Legislative Committee of the Council on Public Policy of the Oklahoma State Medical Association recommends to the Board of Trustees and to the House of Delegates:

1. That the 30th Session of the Oklahoma Legislature provide for instituting an educational program for the detection of phenylketonuria (PKU) in all newborn;

2. That the 30th Session of the Oklahoma Legislature provide for the registration of clinical psychologists rather than licensing, as the latter would be allowing for medical practice by those other than physicians;

3. That the 30th Session of the Oklahoma Legislature enact a law for the fitting of contact lenses by trained personnel, either those trained and working under supervision and control of professionally trained ophthalmologists, or by those who are professionally trained;

- A. That the OSMA go on record in support of Senate Bill 473—a registration act to provide standards and prescribe examinations for dispensing opticians. The registration of opticians would be under the control of the State Board of Medical Examiners;

4. That the Oklahoma Legislative Council consider recodification of the Oklahoma Medical Practice Act;

5. That the OSMA institute a closer working relationship and im-

proved communications with the Oklahoma Legislative Council;

6. That every physician know and visit frequently with his State Representative and Senator, not only during the legislative session, but throughout the year. A physician is only one vote just as all other constituents are only one vote each. It is most difficult for a Legislature to follow a physician's wishes when he has 100 or 1,000 voters pushing him the other way.

Report of the COUNCIL ON INTERPROFESSIONAL RELATIONS (APPROVED AS AMENDED) Council Members

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Frank W. Clark, M.D., Ardmore

Francis A. Davis, M.D., Shawnee

Walter H. Dersch, Jr., M.D., Shattuck

Joe L. Duer, M.D., Woodward

Elmer R. Ridgeway, Jr., M.D., Oklahoma City

Francis R. First, M.D., Checotah

Allen E. Greer, M.D., Oklahoma City

Maxwell A. Johnson, M.D., Tulsa

Port Johnson, M.D., Muskogee

Thomas C. Points, M.D., Oklahoma City

Committees of the Council are:

Medical-Legal Relations

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Kieffer Davis, M.D.

E. F. Lester, M.D.

Myra A. Peters, M.D.

David Ramsay, M.D.

William T. Snoddy, M.D.

Nursing

Francis Pruitt, M.D., Chairman

William R. Cheatwood, M.D.

J. Walker Morledge, M.D.

Elmer R. Ridgeway, Jr., M.D.

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Medicine and Religion

Allen E. Greer, M.D., Chairman

Elvin Amen, M.D.

L. J. Starry, M.D.

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Marcus S. Barker, M.D.

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Pharmacy

Joe L. Duer, M.D., Chairman

John F. Burton, M.D.

R. Q. Goodwin, M.D.

Herbert S. Orr, M.D.
J. R. Smithson, M.D.

Osteopathy

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Glen S. Berkenbile, M.D.
Irwin H. Brown, M.D.
Vernon D. Cushing, M.D.
John E. Highland, M.D.
Lloyd A. Owens, M.D.
Thomas C. Points, M.D.
Bob J. Rutledge, M.D.
Wendell L. Smith, M.D.
Tom C. Sparks, M.D.
James H. Tisdall, M.D.
Kelly M. West, M.D.

SECTION I THE COUNCIL

This has been the first full year of operation for the Council on Interprofessional Relations. Its overall purpose is to coordinate the study of medicine's relationships with other professional and paramedical groups in an effort to promote better understanding, to develop long-range plans and interprofessional codes where indicated, and to generally stay abreast of problematical situations which might exist between one or all of the groups and the medical profession.

At the beginning of the organizational year, the Council conducted a briefing session with committee chairmen working under its direction and outlined basic areas of interest for committee activity. Thus, the bulk of activity in the area of interprofessional relations has been carried out by specialized committees.

One project which has been the primary responsibility of the Council is the development of a Code for Medical-Press Relations (with all news media, including newspapers, radio and television).

The need for such a uniform guide in Oklahoma has been apparent for some time. Sample codes were collected from other states and studied, and informal liaison was established with the Oklahoma Press Association and other news media groups.

At the present time, a suggested code is being drafted by D. Earl Newson, Chairman of the Department of Journalism, University of Maryland, who is temporarily in

Oklahoma conducting special projects in cooperation with the Oklahoma Press Association.

The code will be subjected to the critical review of your Council members plus representatives of all other interested associations and groups. Then, it will be presented to the policy-making bodies of all interested organizations for official adoption. Upon gaining such approval, the code will be printed and widely distributed throughout the state.

Another subject of direct concern to your Council has been in the area of quackery. Last November, the American Medical Association sought liaison with the state association on this subject, and rather than create another special committee, the Council on Interprofessional Relations has simply assumed an additional responsibility as the association's Committee on Quackery and Cults.

It was recently brought to our attention that chiropractors were making an effort to expand the scope of their cult practice by requesting authority from the University of Oklahoma to perform physical examinations on student applicants. This request for official recognition of student health certificates completed by chiropractors was rejected by the University's Student Health Service, and has since become a matter of concern for the O.U. Board of Regents.

Acting in its capacity as the Committee on Quackery and Cults, the Council sent a very strong letter of protest to all members of the Board of Regents, pointing out the fallacious dogma of chiropractic, the inferior training, the limited form of licensure, and other factors which should preclude any serious consideration of the chiropractors' ability to perform acceptable physical examination services.

Recommendations:

Council and committee activities should be continued toward the objectives of improved relationships with other groups and long-range planning. Continuity of personnel in the OSMA organizational structure is of supreme importance.

SECTION II MEDICAL-LEGAL RELATIONS COMMITTEE

No significant problems were presented in this area of interest during the past year.

Recommendations:

An objective for the future will be to establish improved liaison with the counterpart committee of the Oklahoma Bar Association, and to revise and implement the existing Code of Cooperation between the Oklahoma Bar Association and the OSMA.

SECTION III COMMITTEE ON NURSING

At the beginning of the year, projects of mutual interest were anticipated between the association and the Oklahoma Nurses Association, but no specific proposals were made by either group.

Recommendations:

Increased activity in this area is undoubtedly warranted. Specifically, the association committee should join the Oklahoma Nurses Association and the Oklahoma Hospital Association in developing an improved student nurses recruitment program.

SECTION IV MEDICINE AND RELIGION COMMITTEE

The committee has met on three occasions. One of the main activities has been its effort to develop committees on Medicine and Religion at the county medical society level, where the ultimate goal of improving patient care through better physician-clergy relations can be put to work on a practical basis. (Excellent guides for local programs have been developed for distribution to county society chairmen.)

To date, only fourteen county medical societies have created a medicine and religion committee, and only five societies report the conduct of joint programs with the clergy.

Another major activity of the OSMA Committee has been the planning of the Second Annual Peter E. Russo Memorial Conference on Medicine and Religion. This program will be presented on May 15th, from 1:45 p.m. until 3:15 p.m. in the Tulsa Assembly Center.

Principal speakers for this meeting are: Donovan F. Ward, M.D., Du-

buque, Iowa, President of the American Medical Association; Reverend Doctor Charles F. Kemp, Fort Worth, Texas, Professor of Religion, Brite Divinity School, Texas Christian University; and, Reverend Doctor Paul B. McCleave, Chicago, Chairman of the AMA's Department of Medicine and Religion.

Attendance to the conference is limited to physicians, clergymen and their wives. It is hoped that all members of the House of Delegates will participate in this important meeting.

Recommendations:

1. A continued effort should be made by the OSMA Medicine and Religion Committee to interest county medical societies in establishing formal liaison with the clergy at the county and city levels.

2. Based on the response to the program presented May 15th, the Peter E. Russo Memorial Conference on Medicine and Religion should be continued as a regular feature of the OSMA annual meeting.

SECTION V

COMMITTEE ON PHARMACY

The committee held four meetings during the year with representatives of the Oklahoma Pharmaceutical Association.

As a result of these meetings, rapport and mutual understanding between the two professional groups have been greatly strengthened, and articles have been exchanged for publication in the respective journals of the two associations.

The major accomplishment of the committee, working with pharmaceutical association representatives, was to draft a Physician-Pharmacist Code of Understanding. This proposed policy is in keeping with the policy of the American Medical Association and is consistent with the rulings of the AMA Judicial Council. Upon gaining official approval of this code by the two state associations, it is the intent to circulate the code throughout the state and to initiate educational and liaison activities for the purpose of attaining widespread implementation of the stated principles.

Below is the proposed Physician-Pharmacist Code of Understanding as presented for the consideration of the House of Delegates:

PHYSICIAN-PHARMACIST CODE OF UNDERSTANDING PREAMBLE

The purpose of this Code of Understanding is to improve relations between Doctors of Medicine and Pharmacists. Its provisions are intended as guides for physicians and pharmacists in their inter-related practices in the areas covered by it.

The Code of Understanding is not a pronouncement of law, but constitutes suggested rules of conduct for the members of these old and honored professions each subject to the principles of ethics governing their respective members.

This Code recognizes that Doctors of Medicine and Pharmacists are dependent upon one another in serving patients.

It is the hope of the parties who have participated in the development of this Code of Understanding that by an improved and closer relationship between the professions of medicine and pharmacy, the public will be better served.

Physician

For many years the Principles of Medical Ethics of the American Medical Association stated that physicians should recognize and promote the practice of pharmacy as a profession. Physicians should also recognize the cooperation of the pharmacist in educating the public on the practice of ethical and scientific medicine. Physicians should be aware of this ideal and observe it.

The physician should recognize the specialized training of the pharmacist and utilize his services whenever it is in the best interest of the patient.

Physicians should recognize that the patient has the same right to select the pharmacist of his choice as he has the right to select the physician of his choice. Therefore, the physician should not do anything to impair the exercise of this right by the patient.

The Doctor of Medicine is under an obligation to recognize the legal and professional prohibitions which

exist as regards secret formulae, coded prescriptions, rebate arrangements and the like, and he shall not make use of any prescription blanks supplied to him which bear the name of a pharmacist or pharmacy nor enter into arrangements for a direct phone line between his office and a pharmacy.

When there is doubt regarding the quantity of ingredients of a prescription, the physician should willingly cooperate in clarifying the problem.

The physician and the pharmacist should work together as a team providing the patient with proper medication. Through this teamwork, patients will be properly served.

Pharmacist

The pharmacist should never diagnose or prescribe even at the insistence of the patient. He should refer those needing medical attention to a licensed physician of the patient's choice.

The sale of proprietary products and home remedies that have been released by the Federal Food and Drug Administration for over-the-counter sale which the patient may request for self-medication shall not be considered prescribing by the pharmacist.

In an emergency the pharmacist may render such first-aid treatment as is indicated by good judgment.

The pharmacist should consult the physician outside the presence of the patient whenever he has any questions concerning a prescription, and he should have facilities for private reference and for telephone consultation.

Under no circumstances may a pharmacist substitute ingredients without the specific approval of the prescribing physician.

The pharmacist shall follow exactly the prescriber's directions in the refilling of a prescription. If no refilling instructions are contained on the original prescription, the pharmacist will not refill such prescription without the authority of the prescriber.

The pharmacist is under an obligation to provide complete professional pharmaceutical services to his community.

The pharmacist must recognize the legal and professional prohibitions which exist as regards secret formulae, coded prescriptions, rebate arrangements and the like, and he shall not advertise or solicit professional practice by means of providing doctors of medicine with prescription blanks imprinted with the name of his pharmacist or his pharmacy nor by means of a direct phone line between his pharmacy and the office of the doctor of medicine.

Mutual Understanding

The profession of Medicine and the profession of Pharmacy reciprocally acknowledge the foregoing obligations of conduct and understanding. Both professions recognize that each fosters these ethical standards by which the propriety of practice may be determined.

Moreover, should any conduct or practice by doctors of medicine or pharmacists be of concern to practitioners of the other profession, efforts should be made through the respective county and state societies to resolve questions or problems relating to such conduct or practice. Practitioners of Medicine and Pharmacy should expose, without hesitation, illegal or unethical conduct of members of either profession. It is hoped that county medical societies and pharmaceutical associations will amplify these understandings.

Permanent liaison committees should be established by both professional groups at the state association and county levels.

Disciplinary committees should be established and utilized by both professional groups for the implementation of this code.

Recommendations:

1. It is recommended that the House of Delegates approve the Physician-Pharmacist Code of Understanding.

2. It is recommended that the Committee on Pharmacy be continued as a permanent part of the association's committee structure, and that counterpart committees be established and programs developed at the county medical society level.

SECTION VI

COMMITTEE ON OSTEOPATHY

The committee met on four occasions during the preceding organizational year. Your committee's assignment has been to evaluate the complex problems of professional relations with doctors of osteopathy in the light of present conditions, and to make recommendations concerning the development of a current association policy.

Background of Problem:

Changing relationships between M.D.s and D.O.s were studied at the national, state and local levels.

On the national scene, your committee has diligently studied the policies and reports on this subject prepared by the American Medical Association, and has reviewed the activities of more than ten state medical association committees on osteopathy. A meeting was held on December 6, 1964, with Samuel P. Newman, M.D., Chairman of the AMA Committee on Osteopathy, and with William McAuliffe, LL.M., AMA attorney.

Our findings revealed that osteopathy has undergone a gradual change during the past twenty years, to the extent that some osteopaths now attempt to practice scientific medicine. Furthermore, all reports indicate that most schools of osteopathy have adopted the curricula and textbooks employed in medical education, and that the educational standards of such schools are about equivalent to the former Class B schools of medicine.

The AMA House of Delegates adopted a new policy toward osteopathy in 1961. It stated: "It shall not be considered in itself unethical for members of the AMA to associate professionally and on a voluntary basis with Doctors of Osteopathy who base their practices on the same scientific and ethical principles as Doctors of Medicine; and it is the prerogative and obligation of each constituent medical association to implement this policy on a state and local basis."

However, despite the changing trends in osteopathic education and practice, the American Osteopathic

Association continues to publicly support the dogma of the osteopathic concept as promulgated by its founder, Andrew Still. This effort by organized osteopathy to maintain a separate identity from medical science has definitely retarded any constructive plans to resolve differences between the two groups on the part of the American Medical Association.

The failure of the AOA to yield to scientific progress or to face facts realistically appears all the more incongruous when demands are made for universal postgraduate education of osteopaths in schools of medicine, for blanket recognition of *all* osteopaths as scientific healers, and for equal status at hospitals devoted to the principles of medical science.

Although organized osteopathy has resisted AMA efforts, Doctor Newman reported that fourteen state medical associations have implemented the 1961 AMA policy, primarily on the basis of dealing with Doctors of Osteopathy individually.

In Oklahoma, our committee study has revealed that there are about 1,945 Doctors of Medicine in the state as compared to 374 Doctors of Osteopathy (30 of whom have limited licensure). Of 137 hospitals (representing 8,832 beds), 26 hospitals (692 beds) are purely osteopathic hospitals. There are another 19 hospitals (700 beds) with staffs comprised of both M.D.s and D.O.s.

When Doctors of Osteopathy are considered in ratio to Doctors of Medicine, Oklahoma is one of the leading states in terms of osteopathic significance. In addition, the growth of osteopathy in Oklahoma exceeds the national average.

The Oklahoma Osteopathic Association, as an affiliate of the AOA, supports the national policies and programs which work against improved relations. Not only are the usual demands made for blanket authority to participate in medical science postgraduate education courses, for universal recognition of all osteopaths as scientific practitioners, and for extending hospital staff privileges to all osteopaths without qualification, but the O.O.A. has complicated

matters further by the unique control it exerts over osteopathic licensure and freedom of practice.

The Oklahoma statutes indirectly provide that an osteopath must attend the annual meeting of the Oklahoma Osteopathic Association before his license will be renewed. Therefore, an osteopath must belong to the O.O.A. and be governed by it in order to practice in Oklahoma. A portion of the license renewal fees collected through a state agency is used to finance the annual meeting of the O.O.A. Moreover, disciplinary actions against members of the O.O.A. sometimes include the loss of hospital staff privileges.

In view of the attitudes and policies of both the American Osteopathic Association and the Oklahoma Osteopathic Association, your Committee on Osteopathy does not feel that official liaison with the O.O.A. at the present time would be desirable or that it could accomplish any useful purpose.

Your committee is even more opposed to any suggestion that a merger of the two groups be considered, and is united in its opposition to any change in OSMA policy which would grant official recognition to all osteopaths without qualification or reservation.

Efforts are being made at the present time by the Oklahoma Osteopathic Association to gain entrance to the postgraduate education programs offered through the University of Oklahoma School of Medicine, a problem which is being considered by the O.U. Board of Regents. The committee does not believe that a degree and licensure in the separate profession of Osteopathy represent in themselves appropriate qualifications for postgraduate study in a different health discipline.

Organized osteopathy's insistence upon remaining classified in a gray area of pseudo scientific identity is not a matter to be resolved by the O.U. School of Medicine; it is an internal problem within osteopathy itself and the osteopaths must decide among themselves whether or not

they wish to support the principles of medical science before seeking special privileges in another educational discipline.

Although there are many negative factors concerning the medical profession's relations with osteopaths, the fact remains that approximately 20 per cent of the health care being rendered in Oklahoma today is through the osteopathic profession, and in a few rural counties the osteopaths actually outnumber medical doctors.

Furthermore, it is undoubtedly true that certain osteopaths in Oklahoma are attempting to practice scientific medicine rather than osteopathy, and that many practical problems exist in regard to the beneficial referral of patients from one profession to the other, consultations on behalf of the patient, et cetera.

Therefore, in view of the changed policy of the American Medical Association, and in view of the fact that an obvious transition is taking place in the osteopathic educational discipline, and because of the very real interprofessional relations problems involving patient care which exist in Oklahoma today, your committee feels that an adjustment in the policy of the Oklahoma State Medical Association toward individual osteopaths is not only appropriate from a professional standpoint, but is also required from the standpoint of improved patient care.

We feel that the policy of our state association should be in accord with the adopted policy of the American Medical Association, to permit professional association on a voluntary basis with certain individual osteopaths "who practice scientific medicine and who base their practices on the same scientific and ethical principles as Doctors of Medicine."

An amplification of this attitude is contained in the following policy statement which is offered for the consideration of the House of Delegates:

**STATEMENT OF POLICY
MEDICAL AND OSTEOPATHIC
PHYSICIAN RELATIONS**

Preamble

The Oklahoma State Medical Association is dedicated to the promotion

of the art and science of medicine . . . Doctors of Medicine, acting both individually and collectively, are constantly striving to improve the health and welfare of the people they serve.

The attainment of this goal not only requires a continuing adjustment by all medical doctors to the dynamic developments taking place in the field of medical science, but also places great responsibility upon the medical profession to periodically evaluate total health care conditions as they affect the public, including those which lie outside the immediate sphere of medical practice.

One of the most important areas of concern to the medical profession is a continuing study of the quantity and quality of care being rendered to citizens by other licensed practitioners of the healing arts.

In making such evaluations, there can be no compromise of the proven principles of modern medical science and the ethics of practice to which the medical profession adheres; both of which have meant so much to the well-being of the human race.

Statutory recognition of non-scientific healers is not in the best public interest, and does not influence the medical profession in its ethical and professional obligations to patients, nor does it compromise the medical profession in its professional relationships with such non-scientific practitioners.

This position is officially expressed in Section 3 of the Principles of Medical Ethics of the American Medical Association:

"A physician should practice a method of healing founded on a scientific basis; and he should not voluntarily associate professionally with anyone who violates this principle."

This ethical principle, and its application to cultists who follow a tenet or principle based on the authority of its promulgator to the exclusion of demonstration and scientific experience, are reaffirmed by the Oklahoma State Medical Association.

In the past, this ethical principle and the prohibition against voluntary professional association have been applied to all Doctors of Osteopathy.

In 1961, however, the American Medical Association, after several years of investigation, officially recognized the transition of osteopathy toward scientific medicine, and declared that it was no longer unethical from the national standpoint to voluntarily associate professionally with those Doctors of Osteopathy who practice according to scientific principles.

The application of this declaration by the parent body of the Oklahoma State Medical Association has been left to the judgment of local, state, and county medical societies.

Principles of medical science which guide medical practitioners remain constant, and ethical considerations influencing professional relationships with other healing arts are unchanged. It is the educational discipline of osteopathy which is undergoing change, and the results of this change are recognized by this revised statement of policy, which has been formulated for the primary purpose of improving patient care in Oklahoma.

The policy statement is permissive, not mandatory; it permits county medical societies to grant recognition to certain Doctors of Osteopathy, and provides guidelines for determining qualifications. Neither should county society recognition of certain osteopaths be imposed mandatorily upon individual Doctors of Medicine who may not wish to associate professionally with approved osteopaths.

Professional Association With Doctors of Osteopathy

The following statement shall govern the future relationships between Doctors of Medicine and Doctors of Osteopathy:

1. There can never be an ethical relationship between a Doctor of Medicine and a cultist; that is, one who does not practice a system of healing founded on a scientific basis.

2. There can never be a majority and a minority party in scientific medical practice. There cannot be two distinct sciences of medicine nor two different, yet equally valid systems of medical practice.

3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an

attempt by a significant number of those practicing osteopathic medicine to provide their patients with scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

4. It is appropriate for the Oklahoma State Medical Association to reappraise its application of policy regarding relationships with Doctors of Osteopathy, in view of the transition of osteopathy toward scientific medicine, in view of the fact that colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

5. Policy should now be applied individually at the county medical society level according to the facts as they exist.

The test should be: Does the individual Doctor of Osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional relations with him are unethical. If he practices on the same scientific principles as those adhered to by members of the Oklahoma State Medical Association, voluntary professional relationships with him should not be deemed unethical.

6. For the purpose of identifying scientific practitioners at the county medical society level, the term "scientific medicine" is defined as follows:

"Scientific medicine involves the diagnosis and treatment of diseases by persons who, among other qualifications, have passed the Oklahoma Basic Science examination or its equivalent, utilizing current documented knowledge of anatomy, physiology, pathology, pharmacology and bacteriology. Diagnosis must be based on a thorough history, physical examination, and laboratory studies. Therapy must be limited to those types currently in use and accepted by the medical profession, and having been demonstrated to be scientifically sound."

7. For the purpose of evaluating individual Doctors of Osteopathy, certain criteria are recommended:

a. The Doctor of Osteopathy must have fully qualified to practice osteopathic medicine and surgery under the Oklahoma Osteopathic Practice Act, which confers on him unrestricted rights and legal recognition in Oklahoma as a physician.

b. He must practice a method of healing founded on the principles of scientific medicine.

c. He must in good faith endeavor to conform to ethical principles equivalent to the Principles of Medical Ethics of the American Medical Association.

d. His professional and scientific competence must be such that he can give his patients scientific medical care and make contributions to programs to maintain and improve the health of the community.

8. The matter of hospital staff membership is rightfully a decision for each hospital to make. The same standards used by a hospital in deciding whether staff privileges should be extended to a Doctor of Medicine should be used in deciding whether staff privileges should be extended to a Doctor of Osteopathy. Since it is important to the public welfare that hospitals seek accreditation by the Joint Commission on Accreditation of Hospitals, the commission's policy regarding hospitals with integrated staffs should be observed.

Recommendations:

1. It is recommended that the House of Delegates approve the Statement of Policy on Medical and Osteopathic Physician Relations.

2. It is recommended that the Committee on Osteopathy be continued and, in the event the Statement of Policy is approved, the committee should assume administrative responsibility to assist local societies in its implementation at a later date.

Report of the COUNCIL ON PUBLIC HEALTH (APPROVED AS AMENDED)

Council Members

Hayden H. Donahue, M.D., Chairman, Norman
Robert L. Loftin, M.D., Broken Bow
Joe M. Parker, M.D., Oklahoma City

Gifford H. Henry, M.D., Tulsa
 William H. Reiff, M.D., Oklahoma City
 Robert K. Endres, M.D., Tulsa
 C. Frank Knox, M.D., Tulsa
 Howard B. Shorbe, M.D., Oklahoma City
 George H. Guthrey, M.D., Oklahoma City
 J. Walker Morledge, M.D., Oklahoma City
 John W. Records, M.D., Oklahoma City
 Avery B. Wight, M.D., Enid
 Nolen L. Armstrong, M.D., Oklahoma City
 Don H. O'Donoghue, M.D., Oklahoma City
 Kirk T. Mosley, M.D., Oklahoma City
 John X. Blender, M.D., Cherokee
 Francis A. Davis, M.D., Shawnee

The Council on Public Health is comprised of the following committees:

Cancer Committee, Joe M. Parker, M.D., Chairman
 Disaster Medical Care Committee, Gifford H. Henry, M.D., Chairman
 Immunization Education Committee, Nolen L. Armstrong, M.D., Chairman
 Maternal Mortality Study Committee, John W. Records, M.D., Chairman
 Mental Health Committee, George H. Guthrey, M.D., Chairman
 Perinatal Problems Committee, Farris W. Coggins, M.D., Chairman

SECTION I SPECIAL COUNCIL ACTIVITIES

A. Cornell Automotive Crash Injury Research Study: The Board of Trustees approved OSMA participation in this project on July 14, 1963. Last May, the House of Delegates approved continued participation in the study.

The Cornell Automotive Crash Injury Research Study is a two-year research project designed to obtain reliable data on the frequency, nature, and specific causes of injury to occupants of passenger cars and trucks involved in accidents. Medical data submitted by physicians treat-

ing accident victims is matched with information on injury causes and accident data supplied by investigating state patrol officers. This information or data is then submitted to Cornell University for analysis and statistical tabulation. Cornell's research findings are finally transmitted to automobile manufacturers in the form of recommendations for improvement in safety design and engineering features.

The study, which officially began January 1st, 1964, is scheduled to last two and one-half years. Taking two Oklahoma Highway Patrol Districts in a given six-month period and concentrating the study to counties confined within the districts, the study is presently being conducted in the third such district.

Others participating in the research study include the Oklahoma State Health Department, Oklahoma State Highway Patrol and Oklahoma Hospital Association.

Recommendation:

The Council urges continued participation in the two and one-half year study.

B. Regional Conference on Aging and Long-Term Care: The Council on Public Health worked in cooperation with the American Medical Association's Committee on Aging in sponsoring the six-state regional Conference on Aging and Long-Term Care.

The Conference was held in Oklahoma City's Skirvin Tower Hotel on October 15th-16th, 1964. Over 400 persons from Oklahoma, Texas, Arkansas, Kansas, Louisiana and Missouri attended. The audience was made up of representatives from medicine, health and welfare associations, business, labor, churches, schools, civic clubs, retired persons organizations and the communications media.

The purpose of the two-day conference was to explore new needs and report on new developments to enrich living among older people—in employment, health maintenance, adult education, service to community and preparation for later years. Moreover, its purpose was to identify new approaches in facilities and programs for long-term patients of all ages; to improve the coordination

of services to meet individual needs; to promote rehabilitation; and to consider financing of care.

C. Multi-Agency Committee on Smoking and Health: On July 26th, 1964, the OSMA Board of Trustees approved participation by this Council in the educational endeavors of the Multi-Agency Committee on Smoking and Health.

The cooperative committee is comprised of representatives of the Oklahoma State Medical Association, Oklahoma Tuberculosis Association, Oklahoma State Heart Association, Oklahoma Division of the American Cancer Society, State Health Department, State Department of Education, State Thoracic Society, and Indian Health Service.

The purpose of the committee was to design, produce and distribute a brochure listing an index of educational materials available on the subject of the relationship between smoking and health.

The OSMA designed the brochure entitled "Oklahoma Looks at Smoking and Health." It contains 32 different educational materials which can be ordered by any interested group or person. A total of 15,000 copies of the brochure were printed for distribution to schools, physicians and others. The cost of printing was borne proportionately by each organization represented on the committee.

Recommendation:

The Council urges continued participation and medical leadership on the Multi-Agency Committee on Smoking and Health.

D. AMA Institute on Alcoholism: The Oklahoma State Medical Association in cooperation with the American Medical Association's Committee on Alcoholism and Drug Addiction sponsored the AMA Institute on Alcoholism, held in Tulsa's Mayo Hotel, April 8th.

Your Council on Public Health had the pleasure of serving as the OSMA's coordinating body, along with the Tulsa County Medical Society.

Every doctor in the state was invited to attend the meeting. The Institute was held simultaneously with the Annual Meeting and Workshops

of the National Council on Alcoholism, held also in Tulsa, April 7th-9th.

SECTION II

CANCER COMMITTEE

A number of states now have a Cancer Coordinating Committee or a Cancer Commission. Your Cancer Committee has reviewed the functions of several of these groups, and the committee feels there would be no real advantage for either such group in Oklahoma at this time.

Recommendation:

It is recommended that the Cancer Committee continue in order to function in cancer control work and to assist in coordinating cancer efforts throughout the various agencies within Oklahoma.

SECTION III

DISASTER MEDICAL CARE COMMITTEE

Three years ago, the OSMA assumed leadership in inaugurating the Medical Self-Help Training Courses. These courses have been carried out very successfully this year throughout the entire state.

With prior approval from county medical societies, the Oklahoma Civil Defense, State Health Department, and this committee furnish the supervision and guidance for the Self-Help Training Courses being taught.

This committee stays abreast of the latest developments in disaster medical care activities by handling all communications from National Civil Defense and various committees of the American Medical Association.

Recommendation:

That the Disaster Medical Care Committee remain operative for the purpose of serving as medicine's official liaison in disaster preparedness functions.

SECTION IV

IMMUNIZATION COMMITTEE

The Council on Public Health asked for and received approval from the OSMA Board of Trustees on July 26th, 1964, to create a special three-man Committee on Immunization.

The function of this committee has been to work with and assist the State Health Department in developing and implementing a statewide year-round program on immunization education.

The necessity for forming this com-

mittee was made evident when the Council recognized it was unable to sustain a statewide immunization education program on a year-round basis—called for by previous resolutions approved by the House of Delegates. Moreover, because of increased emphasis by the Council in other areas and since the State Health Department was granted \$160,000 to intensify immunization education, the Committee on Immunization was formed and has worked successfully with the state agency in devising a sound educational program embodying principles set forth by the OSMA.

Recommendation:

That the Committee on Immunization continue to function with the State Health Department—in an effort to lend medical guidance in the area of statewide immunization education.

SECTION V

MATERNAL MORTALITY STUDY COMMITTEE

The principal work of this committee is the study of maternal deaths in Oklahoma. The reports of these deaths are obtained by the State Health Department which sends questionnaires to the attendants signing death certificates of women whose deaths are related to pregnancy. A report of the committee's evaluation of each death is prepared and sent to attendant signing death certificate. A copy is also sent to the institution where the death occurred, if it is involved.

A survey recently completed for the committee for the five years 1957 through 1961 shows there were 106 such deaths reported out of approximately 252,000 live births in Oklahoma; a rate of 4.1 deaths per 10,000 live births, which compares with the maternal death rate for the United States as a whole of 3.8 deaths per 10,000 live births in the year 1958.

The following three subjects are of great concern to this committee, and the corresponding recommendations or requests are made:

A. The committee has been concerned with the fact that some maternal deaths occur as a result of a lack of family planning services in some areas and in some socio-economic groups in our population. In

Oklahoma the risk of dying as a result of pregnancy is greatest for the older child-bearing age group and the non-white mother. Twenty-four per cent of the maternal deaths occurred in Negro mothers who constitute only ten per cent of the obstetrical population in Oklahoma. The mother who is age 35 or over constitutes only five per cent of the state's obstetrical population and yet accounts for 32 per cent of the maternal deaths. Lack of family planning services is common to both of these groups.

The committee requested an endorsement by the OSMA that the concept of family planning services is a proper concern of the State Health Department. The explanation and statement of policy were approved at the February 4th meeting of the OSMA Board of Trustees for submission to the House of Delegates at the annual meeting in May. The explanation and statement of policy approved are as follows:

Letter of Explanation

"The Maternal Mortality Study Committee has again considered the subject of family planning services to be sponsored by the State Health Department. The suggestion that the OSMA endorse such a concept was tabled at the meeting of the Board of Trustees on October 25th, 1964. The committee wishes to reiterate its position that as physicians we accept responsibility for the maintenance of good health among the population in which we practice. This is why we study factors which contribute to poor health; in this instance, maternal mortality and morbidity. Conclusions from these studies establish we rightly should recommend to the medical community preventive and therapeutic measures known to be effective.

"Conclusions also indicate increasing deleterious effect of uncontrolled and expanding population pressure. Frequent cases of maternal mortality reviewed by the committee have shown a lack of family planning counseling to be a direct or indirect causative factor. The known adverse effect of over-population on perinatal survival, the number of mentally retarded children and children with

other birth defects is increasing. Most of the casualties of the perinatal period occur among the indigent—the same group which contributes so greatly to the expanding population.

“Last December, the House of Delegates of the American Medical Association approved a policy on population control. This policy strongly recommended widespread dissemination of family planning information as a ‘matter of responsible medical practice.’ The House reversed a 1936 stand against cooperation with lay organizations in the conception control area and also recommended dispensing such information to all patients in need, ‘consistent with their creed and mores,’ including those cared for under tax or community supported health services.

“Birth control advice is currently offered by many private physicians throughout the state. Students at our medical school are taught the importance of family counseling and the methods of family planning. These physicians will carry this information into their practices throughout the state. Family planning is preventive medicine, every bit as important as immunization programs, venereal disease prevention, mental hygiene, cancer detection and tuberculosis control. The area of family planning is more valuable than many already accepted public health functions.

“An endorsement consistent with the one approved by the AMA is requested from the OSMA at this time. This endorsement should be forwarded to the Director of the State Health Department.

“The committee also recommends that the physicians throughout the state be encouraged to support this activity in terms of advice, assistance and referral of appropriate patients.”

Statement of Policy on Human Reproduction and Population Control

1. An intelligent recognition of the problems that relate to human reproduction, including the need for population control, is more than a

matter of responsible parenthood; it is a matter of responsible medical practice.

2. The medical profession should accept a major responsibility in matters related to human reproduction as they affect the total population and the individual family.

3. In discharging this responsibility physicians must be prepared to provide counsel and guidance when the needs of their patients require it or refer the patients to appropriate persons.

4. The AMA shall take the responsibility for disseminating information to physicians on all phases of human reproduction, including sexual behavior, by whatever means are appropriate.

5. It is recommended that the AMA cooperate with the appropriate organizations in the field of human reproduction which have adequate medical direction.

6. There should be no restraints on the physicians concerning the dissemination of birth control information, and, as with other forms of quality medical care, such information should be equally available to both private and clinic patients. It is recognized, however, that in some areas restraints do exist for both physicians as purveyors and patients as recipients of such information.

There is need for amplification of the 1937 policy statement of the AMA which reads, “Information and advice concerning the prevention of conception given in dispensaries, clinics and similar establishments should be given only in dispensaries, clinics and similar establishments legally licensed to treat the sick and under medical control.”

The prescription of child-spacing measures should be made available to all patients who require them, consistent with their creed and mores, whether they obtain their medical care through private physicians or tax or community supported health services.

Recommendations:

1. The committee recommends that the OSMA House of Delegates approve the explanation and policy statement relating to human repro-

duction and population control which is consistent with the one adopted in December, 1964, by the AMA House of Delegates and subsequently, which was approved on February 4th, 1965, by the OSMA Board of Trustees.

2. The committee further recommends that physicians throughout the state be encouraged to support this activity in terms of advice, assistance and referral of appropriate patients to authorized health department agencies; provided, however, that before implementation of any such program, in any given area, approval must first be obtained from the local county medical society.

B. Over the five-year period 1957 to 1961 inclusive, 106 maternal deaths were studied. Of these deaths, approximately 50 per cent were considered to be preventable. This points to a need for further postgraduate education of all medical and paramedical personnel who deal with obstetrical patients.

Over two-thirds of the 106 deaths were caused by either hemorrhage, toxemia or infection which are the leading causes of maternal deaths nationally. One-third of the deaths were caused by hemorrhage. Of the 32 deaths caused by hemorrhage, facilities for blood transfusion were lacking in ten and this fact was instrumental in the deaths of these mothers.

Recommendation:

The committee strongly recommends that it be authorized to determine the cause of these deficiencies in supply of blood and take remedial action.

C. The committee finds that nearly 20 per cent of its questionnaires that are sent out are not returned. In 30 per cent of the questionnaires there is insufficient information to fully evaluate the case. Thus, about one-half of the maternal deaths are either not reviewed by the committee, or the information in the questionnaire is insufficient.

(The reference committee recommends a continuation of maternal mortality study activity, and considers it to be a worthwhile means of improving postgraduate education in obstetrics.)

(To improve the quantity and quality of returned questionnaires, the reference committee recommends that the Maternal Mortality Committee have each case reviewed by a specialist selected by the committee to review hospital records and directly interview all physicians involved; provided, such a procedure is approved by the OSMA legal counsel.)

It is to be emphasized that the objective of these studies is not to find fault, but through education to correct errors in order to bring about better care for mothers in Oklahoma.

SECTION VI

MENTAL HEALTH COMMITTEE

During the course of this year, your Committee on Mental Health has:

1. Printed 4,000 copies of the OSMA statement of policy regarding mental health—approved last May by the House of Delegates.

The publication is entitled "New Action For Mental Health In Oklahoma." Over 1,500 copies have been sent to interested persons throughout the state and nation.

2. Successfully sponsored one of the largest, if not the largest, State-wide Conferences on Mental Health and Retardation held to date in any state.

The conference was held in Oklahoma City on February 4th. More than 1,000 Oklahomans attended. Registrants for the conference included members of the Oklahoma Legislature and representatives from a variety of professional, private and governmental organizations sharing the common interest of improving the state's mental health program.

The program featured an illustrious cast of speakers, including top officials from the state and federal governments, as well as professional mental health leaders of national stature.

Governor Bellmon, key leaders of the Oklahoma Legislature and the press hailed the conference as a gesture by Oklahoma medicine to take its rightful place by furnishing the leadership and scientific knowledge in order to develop a better

mental health program for all Oklahoma.

The expenses incurred by the conference were borne for the most part by direct assistance from Smith, Kline and French Laboratories and the AMA's Department of Mental Health. Smith, Kline and French contributed \$750.00 and the AMA, \$875.00. The balance cost of \$345.00 came from the Council on Public Health budget.

Recommendation:

The Committee on Mental Health recommends sponsorship of another Statewide Conference on Mental Health and Retardation at an acceptable date in 1967, when the 31st Oklahoma Legislature will be in session; providing, however, that adequate financial assistance is made available by the AMA and/or others.

SECTION VII

PERINATAL PROBLEMS COMMITTEE

As a result of Senate Bill No. 87, the committee prepared testimony which the OSMA State Legislature used as a resource in considering action on the measure.

Senate Bill No. 87 proposed a statement of public policy that physicians should perform tests on all newborn in an effort to detect phenylketonuria and other metabolic disorders. It also proposed that the State Health Department would prescribe tests to be used and would initiate educational programs to bring about early detection.

Your Perinatal Problems Committee opposed the public policy provision on the basis of inaccuracy in most available testing procedures and because of the additional hospital stay required on the part of the newborn in order to properly perform testing. The committee, moreover, favored an educational approach as contained in Section 2 of the bill.

Report of the COUNCIL ON INSURANCE (APPROVED)

Council Members

Dave B. Lhevine, M.D., Chairman,
Tulsa
Nolen L. Armstrong, M.D., Oklahoma
City

Jack D. Fetzner, M.D., Woodward
Douglas E. Wilson, M.D., Lawton
Donald L. Brawner, M.D., Tulsa
C. Alton Brown, M.D., Oklahoma City
E. C. Mohler, M.D., Ponca City
C. E. Woodard, M.D., Drumright

The Council represents the association in relation to the OSMA Disability Income Program, the OSMA Overhead Expense Program, the OSMA Group Term Life Program, and the OSMA-approved Professional Liability Program.

SECTION I

DISABILITY INCOME PROGRAM

The disability income insurance program is underwritten by the Insurance Company of North America and it is administered by C. L. Frates and Company, an Oklahoma City insurance agency.

As of March 1, 1965, there were 794 members of the Oklahoma State Medical Association protected by the program.

Total premiums collected by INA since taking over the program in 1961 amount to \$524,676.40, and claims (including reserves for losses) have totalled \$318,409.46. Thus, the loss ratio since 1961 is 60.7 per cent.

At the time the association's program was changed to the Insurance Company of North America, physicians could select from \$200 to \$600 monthly indemnity, payable for lifetime on accidental disability, and for three years on sickness. INA immediately offered an option of either three or five years for sickness protection, effected other liberalizing amendments to the benefits, and reduced the premium by 12 per cent.

The stability of the program resulted in a most favorable loss ratio during the ensuing period, and at last year's annual meeting, your Council was pleased to announce another extension of benefits. The maximum monthly indemnity figure was increased to \$800, and disability protection for sickness was extended to age 65.

About five months ago, the Frates agency persuaded INA to furnish private aircraft coverage in connection with the OSMA program. However, disability claims filed in this connection will not be charged

against the experience of the basic program.

At the time of this report, losses are felt to be in appropriate balance with premium income, to the extent that a major liberalization or premium reduction are not considered advisable, but neither is the insurance company experiencing undue profits. The program is now operating at an optimum level of performance and will continue to do so if new OSMA members can be brought into the program on a regular basis.

To maintain the existing favorable trend in new enrollments, and perhaps to enhance it, the insurance company has recently agreed to furnish thirteen month's coverage at the regular annual premium rate, on an introductory basis, to all new members of the Oklahoma State Medical Association.

Based upon study and comparative analysis of other medical association disability income programs, the Council on Insurance is convinced that the OSMA program is the most competitive plan available in this area. It is the only state association program in the United States which offers both lifetime accident benefits and sickness benefits to age 65, plus private flying coverage. Moreover, when total benefits are measured against premium cost, dollar-for-dollar, the OSMA program is superior to comparable national and regional medical association programs.

The Council is extremely indebted to Mr. Rodman Frates for his efficient administration of the disability income program, and is grateful for his expert counsel and dedicated effort in representing the association in its negotiations with the insurance company.

SECTION II

OVERHEAD EXPENSE PROGRAM

The overhead expense program is underwritten by the Continental Casualty Insurance Company, and is also administered by Rodman Frates for C. L. Frates and Company.

Your overhead expense program is designed to indemnify you against

the cost of keeping your office open during periods of disability due to either accident or illness.

Up to \$1,000 a month in benefits may be purchased for your protection against necessary office expenses while you are disabled. Benefits are payable for 18 months, six months longer than most competitive plans. The waiting period for benefits to begin following disability is optional, either 15 or 30 days.

As of March 1, 1965, 168 physicians were taking advantage of this insurance program. Present premium rates are 12-14 per cent below competing national and regional programs available to Oklahoma physicians. However, due to the favorable loss picture of the Oklahoma plan, the insurance carrier is now considering a dividend or a further premium reduction.

SECTION III

GROUP TERM LIFE INSURANCE

The group term life insurance program is underwritten by the Massachusetts Mutual Life Insurance Company and administered by agent Walter C. Wilson, C.L.U., Oklahoma City. As of April 1, 1965, 363 OSMA members are insured.

For the past two years, excessive losses have jeopardized the stability of the program, even though the total amount of benefits paid on behalf of OSMA members has more than proven the value of the insurance protection.

From 1956 through the year ending with the anniversary date of March 31, 1964, \$667,613 was paid out in claims, dividends to policyholders, administrative costs, taxes and commissions. During the same period, the premium income was \$592,961, resulting in an underwriting loss to the insurance company of \$74,652.

Because of the total loss picture, your Council on Insurance was faced with the problem last year of either effecting a considerable rate increase or re-designing the program on a more actuarially sound basis.

The former program offered a stable death benefit and a premium which increased as the insured grew older. The Council elected not to increase the premiums of the exist-

ing program, because it was felt that such action would result in cancellation by younger physicians and retention by older physicians, thus compounding the loss problem for the future.

Therefore, a revised plan was inaugurated on April 1, 1964, whereby the premium is constant through all age levels (\$125 per year) and the death benefit decreases with the age of the insured (ranging from \$33,125 at age 25 to \$2,250 at age 69).

The new plan actually reduced the cost per thousand dollars worth of death benefit. However, it was recognized by our Council that some older OSMA members would be more desirous of preserving their previous death benefit than in saving premium dollars, so they were afforded the option of continuing the former plan at a significant rate increase. Further, physicians converting to the new program at less death benefit than under the old plan were afforded the opportunity of taking out the balance in permanent life insurance without evidence of insurability.

Under the circumstances, your Council thought the most reasonable alternative was taken, and this action was supported by the Board of Trustees and the House of Delegates.

As of April 1, 1965, one year after inaugurating the re-designed program, the loss experience has markedly improved. However, with a premium income of \$46,198.54 and death claims of \$52,750, the program still incurred an underwriting loss of \$6,551.46.

The Massachusetts Mutual Life Insurance Company has agreed to continue the program throughout the period April 1, 1965 to March 31, 1966 without a premium increase, hoping that the underwriting basis of the new program will prove itself during the next year of operation.

Furthermore, the company has agreed to furnish an extra month's coverage to all new members of the Oklahoma State Medical Association to induce them to enroll in the program early, when the benefit per premium dollar is at its highest.

Like all group insurance programs, the long-range success of the group

term life plan involves spreading the risk across the broadest possible base, which means that a constant enrollment of younger members is necessary year by year.

Every member of the Oklahoma State Medical Association should seriously consider participation in the excellent program offered by Massachusetts Mutual, and particular encouragement should be given to the younger members of our association. The plan can be as good as we will make it, and new enrollment is the key to our success. Greater enrollment would make the best group term life insurance program even better from both a benefit and cost basis.

The present program offers members of the association the lowest-cost, highest quality term life insurance protection available in the state from any source. In addition, the standard plan features double indemnity (triple indemnity in the event of death while on a common carrier), waiver of premium, private flying, and dismemberment and loss of sight coverage. Another distinguishing feature is that all settlement options available through the Massachusetts Mutual Life Insurance Company are offered through this unusual group plan.

Mr. Walter C. Wilson, administrator of the program, has been exceedingly helpful as an advisor to the Council. It is hoped that all members of the OSMA will consider themselves as agents of Mr. Wilson in his efforts to build enrollment in this outstanding program during the next year.

SECTION IV PROFESSIONAL LIABILITY INSURANCE

The association has approved the professional liability insurance program offered by the St. Paul Fire and Marine Insurance Company, and over 90 per cent of the active membership is so protected.

This program has been in operation since 1952 and has resulted in saving Oklahoma physicians about a half-million dollars in professional liability insurance premiums.

However, an unfavorable trend in losses, which began in 1959, reached catastrophic proportions in 1963 when the association plan experienced a 135 per cent loss ratio (premium income as compared to paid losses, loss reserves and expenses).

To compensate for these losses, it was necessary for the insurance company to raise premium rates by 20 per cent in 1963, and in 1964 the rates were adjusted upward once more to conform to the rates recommended by the National Bureau of Casualty Underwriters.

The major objective of the Council on Insurance in this field during the past year has been to reduce claims and losses, toward the ultimate goal of restoring the reduced-premium structure of the professional liability program. It is the considered judgment of your Council that many claims are not only factually unwarranted but also arise unnecessarily due to lack of medical-legal understanding on the part of many practicing physicians.

Physician-patient relations, missing or inadequate medical records, incomplete diagnostic tests, failure to call in consultation on difficult cases, and delayed reporting of incidents are but a few of the causative or contributory factors which aggravate the claims picture and which are felt to be correctible through educational programs.

During the past year, your Council has conducted such programs at the county medical society level in McAlester, Muskogee, Lawton, Tulsa, Pauls Valley and Ponca City. Attendance has been excellent and the response to the programs presented by St. Paul attorneys has been most rewarding. Plans for next year include the continuance of this educational effort.

Communications between the Council on Insurance and St. Paul have been vastly improved. Notices of loss are now mailed to the OSMA on each claim, whether real or threatened, and excellent claims reports summarizing the entire program activity have been furnished by the company every two months. In addition, the year's experience is re-

capitulated in complete detail at the close of the calendar year.

The adverse trend in the professional liability program has been temporarily reversed during 1964. At a recent meeting with St. Paul officials, it was learned that 1964 losses were the most favorable since the inception of the program in 1952. Whereas, the 1963 loss was 135 per cent, the loss ratio for 1964 was only 31 per cent.

However, it must be observed that a loss ratio of 51 per cent is considered the break-even point for underwriting profit by the insurance company. Prior to the encouraging 1964 loss report, the overall loss ratio for the history of the program was 76 per cent, and even though last year's improvement lowered this overall figure to 68.4 per cent, it is obvious that 1964 experience must be repeated if we are to realize premium reductions in the future.

SECTION V

Recommendations:

1. The awareness of physicians toward the legal implications of medical practice must be encouraged, and educational programs of this nature should be continued by the Council on Insurance during the next organizational year.

2. The long-range success of the OSMA's disability income, overhead expense and life insurance programs depends upon the continued enrollment of new physicians each year, and accelerated activity in this area must be a major responsibility of the Council on Insurance in the years ahead.

3. To assist in the accomplishment of the foregoing recommendations, it is recommended that the OSMA Council on Insurance appoint one liaison representative in each county medical society, whose duties would be: To keep well-informed on all OSMA insurance matters and to regularly report to his county medical society; to assist in developing special educational programs for his colleagues; and to contact new OSMA members promptly upon election to membership concerning the advantages of enrollment in the various association insurance programs.

Report of the
COUNCIL ON PROFESSIONAL
EDUCATION
(APPROVED)

Council Members

S. N. Stone, Jr., M.D., Chairman,
Oklahoma City

Howard A. Bennett, M.D., Tulsa
E. E. Shircliff, M.D., Oklahoma City
Roger Reid, M.D., Ardmore
Donald L. Brawner, M.D., Tulsa
Irwin H. Brown, M.D., Oklahoma
City

Orange M. Welborn, M.D., Ada
Wendell L. Smith, M.D., Tulsa
Cleve Beller, M.D., Tulsa

B. C. Chatham, M.D., Chickasha

Eight Regional Postgraduate Courses were held throughout the state again this year. This was the fifth consecutive year for our sponsorship of the courses.

Hosting the courses were: Ada, Clinton-Sherman Air Force Base, Ponca City, Ardmore, Lawton, Woodward, Enid and Muskogee. Nearly 250 Oklahoma physicians attended the courses.

Nine Educational Television shows were sponsored. These programs were televised at a rate of one per week during the months of February and March. From all indications, they were well received by most physicians.

The Council intends to explore the possibility of broadening the scope of the regional courses and television series in an effort to offer even more postgraduate education to physicians across the state.

Without the cooperation given by Irwin H. Brown, M.D., and the Postgraduate Office of the University of Oklahoma School of Medicine, the success of the regional courses and the television programs would not have been possible. The staff of the OSMA is to be commended for promoting attendance and coordinating the courses.

Recommendations:

1. That the Regional Postgraduate Courses be continued and that the sum of \$1,200.00 be allotted for use as needed in this regard.

2. That the Educational Television Courses be continued and that \$1,200.00 be allotted to defray these expenses.

Report of the
FINANCIAL AID TO EDUCATION
COMMITTEE
(APPROVED)

During the preceding year, the committee was comprised of:
Joe L. Duer, M.D., Chairman, Woodward

Clinton Gallaher, M.D., Shawnee
Harlan Thomas, M.D., Tulsa
J. Hoyle Carlock, M.D., Ardmore
Rex E. Kenyon, M.D., Oklahoma
City

A report on deposits and disbursements since the inception of the program appears below:

Scholarships

Deposits to Scholarship Fund \$7,500.00
Scholarships Awarded:

William H. Smith, II	\$500.00
John F. Schumacher	500.00
Muriel E. McGlanery	500.00
Edward Gwin, IV	500.00
John A. Junker	500.00
Johnny H. Jones	500.00
William W. Wallace	500.00
Robert B. Livingston	500.00
Don A. Wilson	500.00
Gene C. Cunningham	500.00
Alan B. Menefee	500.00
Gary M. Moore	500.00
Sidney R. Mathews	500.00
Sherman B. Lawton	500.00
Raymond L. Cornelison	500.00
Total	\$7,500.00

Balance —0—

(The five scholarship winners for the 1965-66 academic year have been selected. They are: William J. Kruse, Oklahoma City; Michael J. Dwyer, Ponca City; Richard D. Green, Norman; Jerry L. Myers, Oklahoma City; and Jerry Glen Gregory, Oklahoma City. Checks for \$500 each will be presented to these students next September.)

Loans

Deposits to Loan Fund	\$17,400.00
Loans Disbursed or Obligated to 44 Students, totalling	17,400.00
Balance	—0—

Grants-In-Aid

Deposits to Fund	\$ 955.12
Grants Awarded (None)	—0—
Balance	\$ 955.12

Foundation of Corporation

As directed by the House of Delegates in May, 1964, the committee has accomplished the purpose of converting the scholarship and loan activity to the status of a charitable, non-profit corporation.

On December 10, 1964, the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated, was granted a certificate of incorporation by the Secretary of State. Articles of Incorporation are on file at the OSMA Executive Office. The bylaws for the new corporation are currently being prepared, according to the same rules and regulations previously governing your committee's activities.

Since it was necessary to name the directors of the newly-formed corporation in order to obtain a charter, your committee named its own membership for this purpose. Thus, the directors of the corporation will change each year according to the prior rules established for the composition of the committee, i.e., the president of the association, the president-elect, and the three immediate past-presidents.

A resolution was approved by the association's Board of Trustees on January 10, 1965, transferring from the scholarship and loan fund to the new corporation all assets including cash, accounts receivable, and notes. Pursuant to the House of Delegates' directive last year, the legal counsel for the association has made application for a tax-exemption certificate for the non-profit corporation, and the receipt of such certificate is anticipated in the near future.

In order to produce investment income from any uncommitted funds on deposit with the Business Administrator, University of Oklahoma Medical Center, your committee has authorized the purchase of certificates of deposit in appropriate amounts from national banks. As membership dues are received after January 1st of each year, the schol-

arship and loan allocation (\$5.00 per member per year) is transferred to the Medical Center depository account. Since these funds are not normally used for loans or scholarships until the Fall, an opportunity exists for investment income during the intervening months.

Recommendations:

1. It is recommended that the OSMA Financial Aid to Education Committee be established in the bylaws as a Standing Committee, its membership to be comprised of the association's president, president-elect, and the three immediate past-presidents residing in the state of Oklahoma. Further, this section of the bylaws should provide that the committee members shall also serve as the full Board of Directors of the Oklahoma State Medical Association Loan and Scholarship Fund, Incorporated.

2. It is recommended that all members of the Oklahoma State Medical Association be advised by mail regarding the tax-exempt status of the corporation, immediately upon receipt of a federal tax-exemption certificate.

Report of the CONSTITUTION AND BYLAWS COMMITTEE (ACTION DEFERRED, SEE REPORT OF REFERENCE COMMITTEE NO. I.

Committee Members

George H. Garrison, M.D., Chairman, Oklahoma City
C. M. Hodgson, M.D., Kingfisher
William M. Benzing, Jr., M.D., Tulsa
Y. E. Parkhurst, M.D., Oklahoma City
Thomas C. Points, M.D., Oklahoma City

SECTION I REVISED CONSTITUTION AND BYLAWS

At the beginning of the organizational year, the committee received specific instructions, as follows:

1. To re-codify the entire Constitution and Bylaws for the consideration of the Board of Trustees and the House of Delegates.

2. To clarify and strengthen the responsibilities and authority of the Grievance Committee.

3. To establish the Council on Interprofessional Relations as the sixth Council prescribed in the bylaws.

4. To develop rules governing dual memberships in county medical societies.

5. To adjust the quorum requirement for the Board of Trustees at special and called meetings.

6. To provide for a long-range planning committee.

7. To draft amendments to grant full rights and privileges to Honorary-Life Members, in order to obtain maximum representation in the AMA House of Delegates.

8. To consider the requirement for staggered tenures for the personnel of the OSMA Councils.

9. To change sections of the bylaws dealing with annual meeting committees to conform with the recommendations of the Annual Meeting Study Committee.

As a result of the committee's study, a revised Constitution and Bylaws is herewith presented. The revision not only incorporates the intent of the specific amendments requested, but also includes the following major revisions.

1. *A re-organization of the major divisions of the bylaws to develop a better sequence among its related chapters.*

2. *Changes in the membership classifications.*

The basic purpose is to make the OSMA membership classifications more closely coincide with the membership classifications of the AMA. In addition to changes in nomenclature, the eligibility requirements, rights and privileges of various types of members are more specifically delineated.

Another important change involves the re-naming of "Honorary-Life Member" to "Life Member," and the granting of full membership rights and privileges to such members who reside in the State of Oklahoma.

The term "Affiliate Member" has been substituted for "Associate Member" to avoid conflict with AMA terminology, and eligibility require-

ments for this classification have been spelled out in greater detail.

3. *Expansion of the provisions regarding dues and assessments.*

The existing bylaws were felt to be vague regarding the amounts of dues and assessments required from the various classes of membership, partial or total exemptions, methods of collection, refunds and penalties. An effort was made in the revised bylaws to correct such inequities.

4. *Major changes in the composition of the General Officers, Board of Trustees and House of Delegates.*

A. *General Officers:* Presently, the association has thirteen general officers, including the President, President-Elect, Vice-President, Secretary-Treasurer, Speaker and Vice-Speaker of the House of Delegates, two Delegates and two Alternate Delegates to the AMA, the Editor of the *Journal*, and the two Immediate Past-Presidents.

The Constitution and Bylaws Committee can see no justification to name the Delegates and Alternate Delegates to the American Medical Association as general officers of this association; does not believe that the position of Editor of the *Journal*, an appointed position, is properly classified as a general officer; and, does not believe that the two immediate past-presidents, who do not have assigned duties as officers, should be so classified.

Therefore, the revised bylaws name the following positions as general officers of this association: President, President-Elect, Vice-President, Secretary-Treasurer, Speaker and Vice-Speaker of the House of Delegates.

B. *Board of Trustees:* The present Board of Trustees is comprised of 41 physicians: 28 Trustees elected from 14 districts, and 13 general officers. This is an exceptionally large Board of Trustees.

The revised bylaws reduce the size of the Board of Trustees to 22, in the following manner: Five general officers, the immediate past-president, 14 Trustees elected from the districts, and one additional Trustee each for the Oklahoma and Tulsa County Medical Societies.

Alternate Trustees, elected from the districts and from the two metropolitan component societies, shall be ex-officio members without the right to vote except in the absence of their respective Trustees. The Vice-Speaker would be an ex-officio member without the right to vote except in the absence of the Speaker. Delegates and Alternate Delegates to the AMA, and the Editor of the *Journal*, would be ex-officio members without the right to vote.

It is the sincere feeling of the Constitution and Bylaws Committee that these recommended changes would result in a more technically correct Board of Trustees, would provide for fair representation from the various districts and metropolitan component societies, and would create a smaller and more flexible Board which could be utilized with greater frequency in managing the affairs of the association.

Other state medical associations have much smaller Boards than does the OSMA. The AMA Board of Trustees is comprised of 12 elected trustees, and three general officers (plus three general officers in ex-officio capacity).

C. House of Delegates: Reflecting the recommended changes in general officers and trustees, as noted above, the House of Delegates in the revised bylaws would consist of the 22-man Board of Trustees, the Vice-Speaker, the Delegates and Alternate Delegates to the AMA, and delegates elected by the component medical societies.

In another change regarding the House of Delegates, the Credentials Committee, formerly a standing committee appointed by the President, has been made a committee of the House of Delegates, to be appointed by the Speaker.

5. *Stronger disciplinary power.*

The Grievance Committee's role of responsibility and its relationship to component medical societies and to the association's Judicial Council (Board of Trustees) has been clarified in detail. Further, to generally strengthen the association's ability

to fulfill its responsibility and privilege of self-government, the jurisdiction, procedure, and authority of the Judicial Council (Board of Trustees) have been described in more specific language.

6. *General improvements to the bylaws.*

Throughout most sections of the bylaws, the Constitution and Bylaws Committee has made minor but important changes in language to effect general improvement and/or clarity.

7. *Amendments to the Constitution.*

To reflect changes recommended for the bylaws, the committee has proposed corresponding amendments in the Constitution.

SECTION II IMPLEMENTATION

Upon the approval of the revised Constitution and Bylaws, the committee believes that immediate steps should be taken to implement the bylaws, even though final approval of the Constitution must necessarily wait until the 1966 annual meeting (because the present Constitution requires 60 days notice to county medical societies of any proposed amendments).

Proposed changes in the composition of the Board of Trustees will require new elections for all District Trustees (and Alternate Trustees) at the 1966 annual meeting. Therefore, subject to approval of this provision at the 1965 annual meeting, it is recommended that all authorized Trustee and Alternate Trustee positions be declared open for election in May, 1966.

Since staggered tenures for Trustees and Alternate Trustees from the fourteen districts are required, it is suggested that the 1966 elections be based on the following initial terms of office:

Trustee Districts 1 through 5—one year

Trustee Districts 6 through 10—two years

Trustee Districts 11 through 14—three years

Moreover, it is recommended that tenures for Trustees and Alternate Trustees elected from eligible component societies should conform to the same initial periods of election

applicable to Trustees and Alternate Trustees elected from the respective districts.

SECTION III

Recommendations:

1. It is recommended that the House of Delegates approve the revised Bylaws for immediate implementation, and approve the revised Constitution for re-submission to the House of Delegates at the 1966 annual meeting.

2. Subject to approval of the first recommendation, it is further recommended that copies of the revised Bylaws be furnished to all component medical societies with the requests:

a. That each component medical society file a revised Constitution and Bylaws with the Oklahoma State Medical Association prior to the 1966 annual meeting, such document to be in accord with (or not in conflict with) the provisions of the revised OSMA document.

b. That the filing of a compatible, revised Constitution and Bylaws by a component society shall amount to a re-chartering of such society as a component society of the OSMA, and that failure to file the required document shall result in the revocation of a component society's existing charter.

3. It is recommended that the Constitution and Bylaws Committee receive and review all revised Constitution and Bylaws documents filed by component societies, determine their compatibility with the revised OSMA document, advise the component societies of any inconsistencies, and report on the compliance of all component medical societies at the 1966 annual meeting.

4. In reviewing the existing Trustee Districts, the Constitution and Bylaws Committee noted that certain counties are separated from other counties of their component societies. The Hughes-Seminole district society is separated, with Hughes County assigned to Trustee District 10 and Seminole County assigned to Trustee District 7. Moreover, Dewey County is found in Trustee District 5, whereas other counties of the Northwest County Medical Society are found in Trustee District 4.

Therefore, the committee recommends that Seminole county be re-assigned to Trustee District 10, and that Dewey County be reassigned to Trustee District 4.

RESOLUTIONS

Resolution No. 1.

(APPROVED AS AMENDED)

INTRODUCED BY: Comanche-Cotton
County Medical Society
SUBJECT: Billing for Voluntary
AMPAC and OMPAC Dues
REFERRED TO: Reference Committee No. II.

WHEREAS, the American Medical Political Action Committee and the Oklahoma Medical Political Action Committee are both organizations formed to elect political candidates who are favorable to free enterprise in medicine; and

WHEREAS, AMPAC and OMPAC are now experienced organizations and have been very active in the support of doctor's causes; and

WHEREAS, AMPAC and OMPAC are both supported financially by the doctors of the states; and

WHEREAS, AMPAC and State PAC organizations have been much more successful where a billing for their dues is made with the state and component society's billings;

NOW, THEREFORE, BE IT RESOLVED, that the House of Delegates of the Oklahoma State Medical Association approve the billing of voluntary AMPAC and OMPAC dues at the same time the state and county dues are billed to the doctor.

Resolution No. 2.

(APPROVED)

INTRODUCED BY: Tulsa County
Medical Society
SUBJECT: Payment of Fees to Physicians For Care of Crippled Children's Service Cases
REFERRED TO: Reference Committee No. III.

WHEREAS, patients formerly cared for under the Crippled Children's Commission are now under the authority of the Oklahoma Department of Public Welfare; and

WHEREAS, at present, physicians are not paid for their services on these cases, and must pay the of-

fice costs and malpractice insurance premiums covering such cases;

NOW, THEREFORE, BE IT RESOLVED, that the children in this classification be treated the same way as adults in regard to fee for service, such payment being made to physicians in the same manner by the Department of Public Welfare.

Resolution No. 3.

(DISAPPROVED)

INTRODUCED BY: Tulsa County
Medical Society
SUBJECT: Endorsement of AMA
Policy on Human Reproduction
REFERRED TO: Reference Committee No. IV.

WHEREAS, the Board of Trustees of the Oklahoma State Medical Association has endorsed a position consistent to the position of the American Medical Association endorsing its Policy on Human Reproduction, subject to ratification by the OSMA House of Delegates; and

WHEREAS, the Oklahoma State Department of Health has requested an endorsement by the Oklahoma State Medical Association before embarking upon an educational program implementing family planning services by disseminating information thereon;

NOW, THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association endorse a Policy on Human Reproduction consistent with that endorsed by the American Medical Association, and a copy of this endorsement be forwarded to the Oklahoma State Department of Health.

Resolution No. 4.

(DISAPPROVED)

INTRODUCED BY: Jackson County
Medical Society
SUBJECT: Recommendation of Russell Wilson, M.D., to an Executive Position in the Department of Health, Education and Welfare
REFERRED TO: Reference Committee No. III.

WHEREAS, the members of Jackson County Medical Society are personally acquainted with Doctor Russell Wilson; and

WHEREAS, appointments to executive positions in the Department of

Health, Education and Welfare are made from time to time; and

WHEREAS, Doctor Wilson is desirous of such an appointment; and

WHEREAS, we believe that Doctor Wilson is exceptionally well qualified for an executive position in this department.

He was born and reared in Southwest Oklahoma; graduated from the University of Oklahoma School of Medicine in 1940; interned and served as Surgeon in the U.S. Public Health Service from 1940-1946. Following this, Doctor Wilson took a Fellowship in Medicine at the University of Minnesota. He has been very active in research and investigation in cardiac and pulmonary physiology and has published numerous papers on this and related subjects. At present, Doctor Wilson is a member of the Dallas County Medical Society, American Medical Association, is a Fellow, American College of Physicians and of the American College of Chest Physicians. He is serving as Director of Research at the Veterans Hospitals at McKinney and Dallas, Texas, and in addition, is Associate Professor of Medicine of Texas University Southwestern Medical School;

NOW, THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association go on record as recommending Doctor Russell Wilson to an executive position in the Department of Health, Education and Welfare.

BE IT FURTHER RESOLVED, that a copy of this resolution be forwarded to the Office of the President of the United States, who has personally acknowledged receipt of his application.

Resolution No. 5.

(APPROVED)

INTRODUCED BY: Oklahoma County
Medical Society
SUBJECT: Official Seal
REFERRED TO: Reference Committee No. I.

BE IT RESOLVED, that the President of the Oklahoma State Medical Association appoint a committee for study and change of the official seal of the Oklahoma State Medical Association. The proposed change

(Continued on Page 311)



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(Continued from Page 309)

would eliminate the double serpent and wings of Mercury and substitute the official emblem of medicine, namely the staff and single serpent of Aesculapius.

Resolution No. 6.

(ACTION DEFERRED, SEE REPORT OF REFERENCE COMMITTEE NO. II.

INTRODUCED BY: Francis A. Davis, M.D.

SUBJECT: Non-Participation

REFERRED TO: Reference Committee No. II.

WHEREAS, the practice of private medicine has provided residents of the United States (regardless of age) with the highest quality medical care obtainable anywhere; and

WHEREAS, the Mills Bill, HR-6675, proposes a government program of social hospitalization and medical care for the aged; and

WHEREAS, such a program would destroy the patient-physician relationship so essential to the best medical care; and

WHEREAS, such a socialized program by regimenting physicians and their patients will lead to inferior medical care as it has in other countries; and

WHEREAS, the built-in controls of the Mills Bill, HR-6675, will make hospitals, patients, and physicians, subordinate to the Secretary of Health, Education and Welfare; and

WHEREAS, it is the ethical and moral obligation of physicians to take whatever action is necessary to protect their patients from inferior medical care schemes; and

WHEREAS, non-participation is the one remaining means by which physicians can protect their patients from the deterioration of medical care resulting from socialized medical care schemes; and

WHEREAS, voluntary non-participation by individual physicians in any scheme deemed by them to be detrimental to their patient's welfare is legal, morally right, and ethical; and

WHEREAS, non-participation means that physicians will continue

to render their patients medical services as usual—in doctor's office, in the patient's home, and at hospital or nursing home, but will refuse to deal with a third party that intrudes into the private relationship between patients and their physicians; and

WHEREAS, in June, 1961, the American Medical Association House of Delegates passed the Bauer Statement which reads as follows:

"The House of Delegates believes that the Medical Profession will see to it that every person receives the best available medical care regardless of his ability to pay; and it further believes that the profession will render that care according to the system it believes is in the public interest; and that it will not be a willing party to implementing any system which we believe to be detrimental to the public welfare."

WHEREAS, Doctor Bauer stated several times that this statement meant non-participation; and

WHEREAS, the THIRTEENTH AMENDMENT TO THE CONSTITUTION gives the American people the right to NON-PARTICIPATION;

THEREFORE BE IT RESOLVED, that the House of Delegates of the Oklahoma State Medical Association, in regular session assembled in Tulsa, Oklahoma, this 15th day of May, 1965, endorses the principle of Non-Participation and urges each of its members to refuse to participate in the socialistic scheme known as the Mills Bill, HR-6676;

BE IT FURTHER RESOLVED, that this resolution be transmitted to the House of Delegates of the American Medical Association.

Resolution No. 7.

(APPROVED)

INTRODUCED BY: Cecil R. Stansberry, M.D.

SUBJECT: OSMA Opposition to Senate Bill 421 and Support of Senate Bill 473.

REFERRED TO: Reference Committee No. II.

WHEREAS, Oklahoma optometrists have caused to be introduced into the 30th Oklahoma Legislature Senate Bill 421; and

WHEREAS, Senate Bill 421 would destroy the existing relationship be-

tween ophthalmologists and opticians by prohibiting the fitting of contact lenses by opticians (even on prescription and under the supervision of an M.D.); and

WHEREAS, the ophthalmologist utilizes the optician to do the basic mechanics of measuring and fitting the curve of the contact lens to the cornea of the eye; and

WHEREAS, the optician is trained and supervised by physicians and their status as technicians in the field of contact lens fitting is recognized nationally; and

WHEREAS, it would be an injustice to legislate trained opticians out of a mechanical procedure they are competent to perform; and

WHEREAS, the effect would discourage ophthalmologists in this field, thus depriving many of the services of the only fully qualified practitioner in the eye care field; and

WHEREAS, there is no proven health problem where the ophthalmologist-optician working relation is concerned; and

WHEREAS, passage of Senate Bill 421 might well create a public health problem by directing the public to non-medical practitioners for contact lens fitting and care; and

WHEREAS, the public would adversely be affected both economically and scientifically;

NOW, THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association, in the interest of preserving better visual care, (particularly in the field of contact lenses), go on record as opposing Senate Bill 421 which proposes to restrain the dispensing optician from assisting the ophthalmologist in the fitting of contact lenses; and

BE IT FURTHER RESOLVED, that the Oklahoma State Medical Association go on record in support of Senate Bill 473—a proposal which provides for registration and the establishment of standards for opticians under the control and supervision of the State Board of Medical Examiners; and

BE IT FURTHER RESOLVED, that a copy of this resolution be for-

warded to the entire membership of the Oklahoma Senate and House of Representatives.

Resolution No. 8.

(APPROVED)

INTRODUCED BY: Walter E. Brown, M.D., Tulsa

SUBJECT: The practice of Radiology in Hospitals

REFERRED TO: Reference Committee No. II.

WHEREAS, the practice of Radiology by contractual arrangement with the hospital and collection of the fee by the hospital has the disadvantages of:

- (1) Increasing the problems of hospital-physician relations;
- (2) Giving the radiologist a monopoly which restricts free choice of physician by a patient and restricts free choice by a physician of a consultant radiologist;
- (3) Identifying the radiologist as a hospital employee and his services as hospital services in the minds of the administrator and governing board and patient and insurance carriers; and

WHEREAS, radiologists throughout the nation have successfully separated professional billing from hospital billing for radiologic services; and

WHEREAS, the Council of the American College of Radiology at the Annual Meeting in February, 1965, declared restrictive covenants or contracts unethical, and urged all ACR members to work toward arrangements where they send their bills for their services;

THEREFORE BE IT RESOLVED, that the Oklahoma State Medical Association endorses and approves the action of the American College of Radiology, and encourages its members to strive for such arrangements; and

BE IT FURTHER RESOLVED, that this resolution be forwarded to the American Medical Association for approval and implementation.

Resolution No. 9.

(APPROVED AS AMENDED)

INTRODUCED BY: Cecil R. Stansberry, M.D.

SUBJECT: Opposition to H.B. 939

REFERRED TO: Reference Committee No. IV.

WHEREAS, the Oklahoma State Medical Association is vitally interested in seeing that the citizens of the State of Oklahoma receive the best possible diagnosis, care, treatment, and rehabilitation for their mental and physical illness; and

WHEREAS, the Oklahoma State Medical Association is interested in the protection of the public from persons posing as psychologists whose training does not meet the minimum standards set forth by the American Psychological Association; and

WHEREAS, the proper registration of psychologists by State Law can offer the protection needed by the public in this area of endeavor;

NOW, THEREFORE, BE IT RESOLVED: (1) That the Oklahoma State Medical Association go on record as opposing the proposed Psychologist Licensing Act (House Bill 939, 30th Legislative Session) since the qualifications of psychologists under this Act do not meet the standards set forth by the American Psychological Association and since licensing is unnecessary; (2) that the Oklahoma State Medical Association go on record as endorsing a Registration Law for Psychologists; and (3) that the Oklahoma State Medical Association cooperate closely with the Oklahoma State Legislature in bringing about legislation creating a Psychologist Registration Act in Oklahoma for the best interests of the people of Oklahoma;

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Governor and to the entire membership of the Oklahoma State Senate and the House of Representatives.

Resolution No. 10.

(APPROVED AS AMENDED)

INTRODUCED BY: Malcom E. Phelps, M.D.

SUBJECT: AMA Anti-Medicare Campaign

REFERRED TO: Reference Committee No. II.

WHEREAS, the AMA has conduct-

ed a continuing campaign to promote public and Congressional support for wise legislative action to help finance the health care of the aged; and

WHEREAS, this campaign has stressed three principal features which are sound:

- a) Help directed toward those over 65 who need help;
- b) State rather than federal administration; and
- c) The maximum use of private carriers and the voluntary health insurance and prepayment principle; and

WHEREAS, the Board of Trustees, the Task Force and the Staff, under the overall direction of the Executive Vice-President, have conducted a high-level, persuasive and positive campaign designed to tell our story—a story which was supported by the majority of the people;

THEREFORE, BE IT RESOLVED, that the OSMA House of Delegates commends the Board of Trustees, its Task Force and the Staff for their efficient and energetic conduct of a difficult campaign under highly unfavorable political circumstances; and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the AMA.

Resolution No. 11.

(APPROVED AS AMENDED)

SUBMITTED BY: Malcom E. Phelps, M.D., Trustee

SUBJECT: Extending Appreciation to the Shepherd Foundation

REFERRED TO: Reference Committee No. I.

WHEREAS, the Shepherd Foundation has up to the present time donated \$70,000 to be used as a loan fund for students at the University of Oklahoma School of Medicine; and

WHEREAS, the President of the Oklahoma State Medical Association or his representative is one of three people who allocate and distribute these funds;

NOW, THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association extend its thanks and appreciation to the Shepherd Foundation for this important contribution in assisting future physicians to obtain an education. □

Project Head Start

EIGHTY-FIVE communities in Oklahoma have requested financial assistance from the Office of Economic Opportunity for setting up and operating Child Development Centers—"Project Head Start."

These Centers are to be set up to assist children of limited opportunity who will enter kindergarten or first grade this Fall. Most of these programs will start in July and will run about eight weeks. Although these Centers, with two or three exceptions, will be operated under the auspices of public schools with education as the basic objective, the improvement of physical, mental and social health will be of major concern in all of them.

Guidelines for these projects have been developed under the general supervision of Julius B. Richmond, M.D.,* Program Director, Project Head Start, Office of Economic Opportunity. The Guidelines indicate that in addition to a complete medical examination, emphasis should be placed on the need for testing vision, hearing, and speech abnormalities and in screening applicants for tuberculosis, anemia and kidney disease. It is necessary to evaluate the child for special weaknesses and strengths in his intellectual, social, and emotional growth and maturation, since these are of great importance to the total development of the child. Wherever possible, special note should be made of the problems in family life and its inter-relationships. In that the children in this program will be drawn from the low socioeconomic area of the communities, often many miles from a physician, it may be helpful for physicians to use the services of nurses from the local health department, where available, to do some of the screening procedures in the examinations. Although it is preferred that immunization be done as a part of the medical examination, in remote areas or for other reasons, physicians may wish the local health department nurse to be responsible for all or part of the immunizations.

The better staffed health departments in the state have psychological services, some have social services and some have part time speech pathologists as a part of their Guidance Center program. The assistance of

*Professor and Chairman, Department of Pediatrics at State University of New York, Syracuse, New York.

these disciplines, along with the Public Health Nurses, can be called on in evaluating selected children and family situations. There will be many occasions where Child Welfare services will be of help in assessing the emotional aspects of a child's health.

Brief statements indicating significant abnormal findings, both physical and emotional, which may help teachers in dealing with these children, should be made available to the Center. It would also help, if along with these, recommendations or suggestions could be made to aid the teachers in dealing with the child in a group situation. Through the understanding of a child's physical and mental condition, the Center can offer more help to the child and his family.

Provision may be made for a fee for these evaluations through Project grant funds. Obviously, this feature must be incorporated in the Project plan when it is submitted.

These physical examinations and evaluations are best conducted in the physician's office along with other patients. Many of these children and their families have had little exposure to a physician in a private setting. A most important aspect of this program is that of health education. It is hoped that education will encourage these children and their families to assume greater responsibility for their total health. There are areas in the State and situations where it will not be possible for this desirable plan to be followed. In some areas and situations, a different approach will be necessary to accomplish the desired goal.

It is important that physical and emotional pathology be detected and corrected so that the child may take full advantage not only of the Child Development Center experiences, but also of the classroom experiences when he enters school in the Fall. It is also important that this contact with physicians and other health services results in a good educational experience for both the child and his family.

It is generally accepted that a single medical examination, with its limitations of time,

is not the only method for evaluating the health status of a child. It has been demonstrated that the teacher herself has a major opportunity for observing deviations from normal among the children in her classroom. With assistance from the school nurse or a Public Health Nurse, she is in an excellent position to select most of the children with health problems, both physical and emotional. These children then can be referred to a physician for further evaluation and treatment if indicated.

Orientation courses are set for teachers in Head Start to be conducted in the State Universities during the first half of June. The role of the teacher in identifying children with health problems, physical, mental and emotional, will be emphasized. It is well recognized that most of the health problems of school children are already present in their pre-school years. All of these are best dealt with in their beginning rather than when they are well established. Amblyopia exanopsia, if not found and treated before the child enters school, may cause, for example, sight in one eye to be lost or seriously impaired. Many schools report emotional and behavioral disorders as the most common health problem. A recent study¹ among Oklahoma school children estimated that one child in 14 has an emotional or serious behavior disorder.

Doctor Lesser,² in a recent publication, states, "A number of studies have shown that where children get into serious difficulties, the onset can usually be traced back to early childhood. The basis for healthy personality development is usually established early in childhood in the relationship of the child to his mother and father, the affection and discipline in the home, the ability of the child to develop a satisfactory identification with a parent or other hero figure and peer relationships. The guidance the physician provides in child health supervision places him in a unique position to foster healthy physical and emotional growth and development and prevent serious emotional disturbances. Teachers have the opportunity of observing those pupils who are excessively aggressive, or withdrawn or dependent or who give other indications of emotional problems. Much of the potentiality for preventing de-

linquency and emotional illness in adolescence and adulthood lies in our ability to provide adequate health supervision in infancy and childhood and early diagnosis and treatment for children who show evidence of emotional disorders."

The importance of follow-up on these medical examinations, and a remedy for as many of the disorders which may be found, cannot be over-emphasized. Health Department Nurses are available to assist physicians and Center personnel in this activity. Many of the projects will carry funds for treatment for some of the minor crippling conditions as they are found. However, other community and State resources for care of these children will also have to be called upon for an adequate program. Remedial care may not be limited to therapy in the sense of drugs and surgery, but will emphasize the importance of other Public Health resources in the community, region or State.

Health Department Nurses, Guidance Clinics, and social services of the private and public welfare agencies can be of great help in meeting physical and social needs in the health area. Medicine has a vital role of leadership in bringing into play these services in the community or State for the total development of these children. □

1. A Report on Handicaps Among Children in Oklahoma's Public Schools. The Legislative Council Committee on Rehabilitative Services, 1964.

2. Health of Children of School Age. Children's Bureau, 1964.

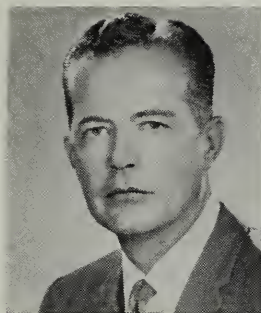
John W. Shackelford, M.D.

The Assessment

ON FEBRUARY 28th, for the first time in ten years, the association's House of Delegates voted an assessment to help finance a public information program on the Medicare vs. Eldercare issue.

The elected representatives of county medical societies apparently thought this decision was wise and proper at the time it was made, and yet the modest assessment attracted vociferous opposition from some physicians, many of whom may be inclined toward Monday morning quarterbacking.

When an organization is governed by majority rule, there will always be a minority viewpoint. However, if *all* physicians would participate actively in the affairs of organized medicine, perhaps the Delegates could come closer to the epitome of 100 per cent unity on all issues. □



I am impressed by a man called Jim.

More formally, he is James L. Dennis, M.D., Dean of the School of Medicine, University of Oklahoma. If he survives the turmoil of change, the slings and arrows of administrative adjustment,

and the criticism of a vocal minority with questionable motivation, he will one day accomplish greatness for our school. And, knowing the man . . . I suspect that he will survive . . . unbowed, and not too bloody!

The Committee which selected him, from a long list of well-qualified candidates, deserves the applause of this Association . . . for never has a committee been forced to work in an atmosphere of greater turbulence. I know . . . for I was an unintentional agitator; and I keep a couple of related newspaper clippings around . . . just to remind me of what one should (or more properly should NOT) say to the Press! Following one of the many somewhat stormy meetings, in which representatives of various professional groups were called to advise the Selection Committee, I announced tritely, but emphatically, "We couldn't find a man to please this group, even if he were born in a manger!" Since there is no evidence that the Dean's birth was attended by Wise Men and Archangels, I now publicly withdraw that statement!

Doctor Dennis is, first and foremost, a physician . . . and he thinks like a physician! Moreover . . . and highly significant for a doctor in his position . . . he is a man of vision. He regards the status quo only as a foundation for improvement, and orderly change as the design of progress. Witness his "Project Responsibility," which may not

be free of imperfection; but which, with proper support and counsel from members of this Association, might well serve as the "rough-sketch" blueprint for solving many of Oklahoma's medical needs.

Doctor Dennis has my personal pledge of cooperation!

And, I would in the same breath urge each member of this Association to offer a similar pledge. It is high time that petty differences, carefully concealed professional jealousy, or past misunderstandings be forgotten . . . by the practicing physician . . . and by the faculty! For, it is axiomatic that Oklahoma Medicine can never be really great until we have a great school. And, we can never have a great school until each of us offers some part of his skill, his talent, his pride, his understanding, his effort as an unselfish gift to progress! As the past is prologue, so the future necessarily requires that Faculty and Practitioner should join hands as partners in accomplishment!

Even as I direct these thoughts primarily to the practicing physician, who forms the large bulk of our membership, I would remind our friends on the full-time faculty that this is not a one-way street. Organizational Medicine needs YOU . . . just as you need us. We ask not only for your dues (although I must candidly admit that OSMA can always use a few extra dollars!). But, more important, we ask for your time, energy and activity. The Oklahoma State Medical Association can best serve you if you ARE the Association; and certainly you could be a most significant part!

And so, to Jim Dennis I would say, "I'll help you build a better school . . . and you help me build a better OSMA. Perhaps we'll be joined by scores of physicians; and the guaranteed result will be BETTER OKLAHOMA MEDICINE!"

Rex Kenyon

Traumatic Diaphragmatic Hernia

JOE L. SPANN, M.D., F.A.C.S.
FRANK A. CLINGAN, M.D.

The etiology, pathogenesis, and symptomatology of traumatic diaphragmatic hernias are presented. Without drastic changes in human nature and the withdrawal of high speed automobiles from the highway, it is likely that we shall be confronted with increasing numbers of this entity. Illustrative cases are presented with suggestions for surgical repair.

IN THE PRACTICE of surgery, there are few pathological entities so distinct and easily recognizable as abdominal hernia. Often the patient presents himself merely for confirmation of his own diagnosis of "rupture" and for appropriate surgical treatment. Unlike the more common groin hernia, defects in the respiratory diaphragm are hidden from the view and palpating fingers of the examining physician. For this reason, correct diagnosis of diaphragmatic hernia is frequently established after the condition has become complicated.

Nearly 400 years have passed since Ambrose Paré reported two cases of traumatic

diaphragmatic rupture. Laennec suggested, 250 years later, corrective surgery for these injuries. During this time, we have made great strides in surgery, but even greater advances have been made by production of causative agents of diaphragmatic injuries, such as cars, airplanes and small missiles.

We wish to present a few observations regarding the capricious behavior of traumatic diaphragmatic defects and illustrate these features with representative cases selected from our surgical practice.

Defects in the diaphragm may be acquired either by penetrating injuries or by severe blunt trauma. Thoraco-abdominal gunshot wounds acquired in wartime combat may confront us with their late complications. A month spent on active emergency room service at a large city hospital will convince one that similar penetrating injuries may develop in the darker parts of town almost any Saturday night.

An increasingly common source of diaphragmatic injury is the steering post to a driver in a head-on collision. The mechanism of this injury may be explained by Pascal's law which states that pressure applied to an enclosed fluid is transmitted equally without diminution in all directions. If one considers the human abdomen as a mere container of fluid, it is apparent that a force applied as blunt trauma to the abdomen would be transmitted upward against the diaphragm.

It would appear that the leaflets of the diaphragm are the most fragile portion in this human vessel.

The symptomatology of diaphragmatic hernia is determined by the size of the aperture. A large rent in the dome of the diaphragm can admit a massive quantity of abdominal viscera to the pleural cavity, which usually produces cardio-respiratory embarrassment. Unless the anatomical basis of respiration is restored, death may ensue. If the patient survives the acute phase, surprisingly large quantities of abdominal viscera may occupy the pleural cavity with few respiratory symptoms. Perhaps fixation of the mediastinum by adhesions prevents significant mediastinal shifts. The liver seems to protect the right leaf of the diaphragm since the majority of ruptures are of the left side.

On the left side, however, even small defects can produce severe symptoms. The omentum plugs a small hole temporarily, but unfortunately this is not equivalent to fibrous healing. Progressive incarceration of larger quantities of omentum and its attached viscera is encouraged by the following factors: (1) the pressure differential between pleural and peritoneal cavities, (2) peristalsis of the gastrointestinal tract, (3) atrophy and centrifugal retraction of the musculature surrounding the defect in the diaphragm, and (4) absence of any mesothelial sac. One might consider the omental plug as the foot of an unwelcome intruder in the door of the chest. If one views the omentum as the leading edge of a mobile visceral mass composed of stomach, transverse mesocolon and its attached mesentery, it is not surprising that the stomach and transverse colon are the most frequent visceral occupants of this type of hernia.

The results of extreme violence to human beings are not confined nicely along lines of surgical specialization. It is the rule, rather than the exception³ that the patient has multiple injuries involving many organ systems. The greatest problem in caring for such multiple injuries is in being certain that all critical injuries have been recognized. This problem is magnified if the patient has persistent shock after all overt shock-producing injuries have been treated. Under these circumstances, one must consider the possibility of a ruptured diaphragm in the group of oc-

cult sources of persistent shock. Rupture of the spleen with exsanguinating hemorrhage demands and usually gets prompt surgical attention. After the immediate crisis of arresting hemorrhage by splenectomy, it is not difficult to overlook a defect in the dome of the diaphragm unless careful palpation of this structure is made an integral portion of the upper abdominal exploration in severe trauma.

I

ACUTE PHASE

A 24-year-old white woman pedestrian was brought to Hillcrest Medical Center by ambulance. She had been struck by an automobile 45 minutes earlier. She was in profound shock with obvious compound fractures of the right leg and severe skeletal damage of the pelvis. Roentgenograms confirmed the fractures of the leg and pubis and revealed marked protrusion of the right hip into the pelvis with a right sacroiliac subluxation. A cystogram revealed intraperitoneal and extra-peritoneal extravasation of the contrast medium. The fractures were splinted. Blood and colloids were started after a blood pressure was obtained and a laparotomy was performed. Upon entering the abdominal cavity, caseous material and

Joe L. Spann, M.D., is a 1948 graduate of the University of Oklahoma School of Medicine. In addition to his private practice in Tulsa, he is a member of the teaching staff at St. John's Hospital and Hillcrest Medical Center.

Doctor Spann is certified by the American Board of Surgery; a Fellow of the American College of Surgeons; a member of the Southwestern Surgical Congress and the Oklahoma Surgical Association. He is presently serving both the Oklahoma Surgical Association and the Tulsa County Unit of the American Cancer Society as president.

A 1956 graduate of the University of Oklahoma School of Medicine, Frank A. Clingan, M.D., a Tulsa surgeon, has been certified by the American Board of Surgery.

Doctor Clingan is a member of the Oklahoma Surgical Association.

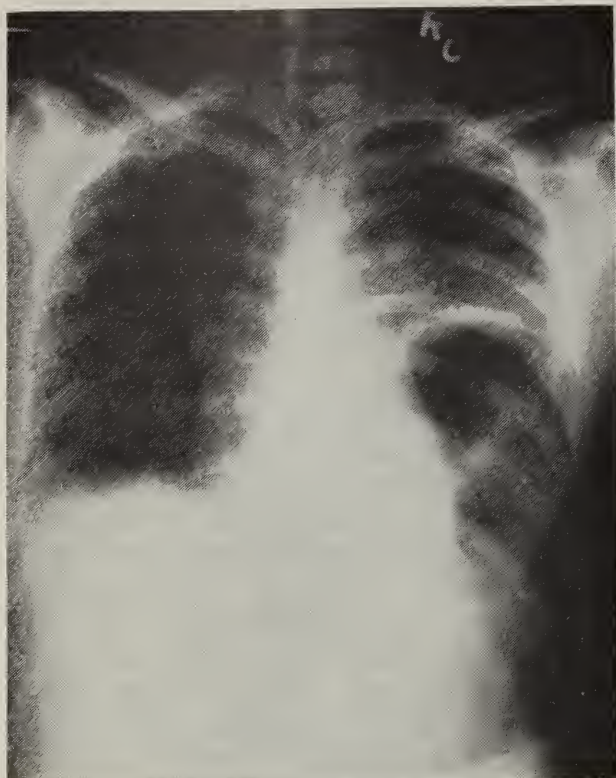


Figure 1. A P Chest.

hair was evident, since a dermoid cyst of the right ovary had been ruptured by the trauma. The ruptured urinary bladder was repaired with a suprapubic cystostomy and pre-vesical drainage. An oophrectomy was performed and a rent in the sigmoid mesocolon was repaired. The other intra-abdominal organs were explored by running the entire bowel and palpating the liver and spleen. The traumatized right groin and parala-bial lacerations were debrided and closed with drainage. The pubic symphysis was ap-



Figure 2. Defect in left leaf of diaphragm.

proximated with wire suture to facilitate skin closure and stabilize the pelvis. The patient tolerated the general anesthetic well. Later, during the day of admission, decreased breath sounds were noted in the left lung base. She complained for the first time of pain in the left chest, and portable chest roentgenogram was obtained. The findings were consistent with that of a traumatic diaphragmatic hernia (figure 1). This was confirmed with roentgenogram by introducing radiopaque medium through the indwelling Levine tube showing the position of the stomach in the left chest. The second day after injury, a 15cm transverse rent in the dome of the left diaphragm was repaired through the abdomen (figure 2). The stomach and transverse colon were incarcerated in this defect.

The patient's post-operative course was complicated by upper gastrointestinal tract bleeding, pulmonary emboli, rectal fistula and slough of the contused skin of the lower abdomen. Her cardio-pulmonary function remained good throughout her prolonged course which involved multiple anesthetics. A review of the soft tissue trauma (figure 3) and the severe skeletal derangement of the pelvis suggested that the maximum impact had been confined to the right hip, groin and pelvis. We failed to appreciate the degree of blunt trauma to the abdominal cavity which was transmitted to the left leaf of the diaphragm. The frequent association of pelvic fractures and traumatic rupture of the diaphragm is not unusual and has been noted by others.³

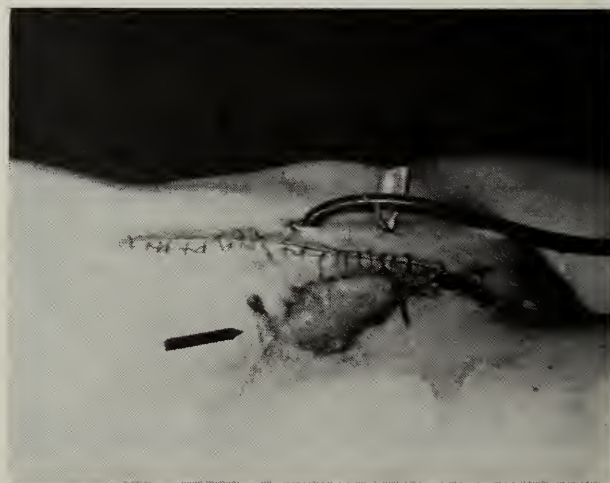


Figure 3. Reveals area of maximum impact. Note cystostomy catheter.

II

INTERVAL PHASE

The latent phase of diaphragmatic hernia defies diagnosis on a purely clinical basis. Routine chest roentgenogram may reveal a density in the lower lung fields contiguous to the diaphragm which if this finding is buttressed with a history of severe trauma to this area, may be the first clue to correct diaphragmatic hernia. We have had no representative cases in our practice.

III

CHRONIC SYMPTOMATIC PHASE

The signs and symptoms of an old traumatic hernia are those of a mechanical bowel obstruction. If it is known that the patient had antecedent severe trauma to the abdomen or lower chest, the roentgenographic findings of obstruction of the transverse colon or volvulus of the stomach are most easily explained. More often, the history of an old injury is obtained after the patient returns from surgery, relieved from his diaphragmatic hernia.

The following cases illustrate some facets of the problems of diagnosis and treatment of late traumatic diaphragmatic hernia. The first is a 29-year-old Negro man who was admitted to Hillcrest Medical Center medical service with complaints of pain and discomfort in the lower chest. A tentative diagnosis of pneumonitis in the left lower lobe was made. The diagnosis tended to be confirmed by roentgenogram of the chest showing an opacified left lower lung field (figure 4). However, the patient was afebrile and lacked the symptomatology one would expect in a pneumonitis of this severity. While under observation, he developed severe abdominal cramping with repeated vomiting. A gastrointestinal examination obtained by the medical service showed findings indicative of a small bowel obstruction. Further questioning revealed that he had sustained a .45 caliber gunshot wound of the left lower thorax two years prior to this admission. He had been treated at another local hospital by repeated thoracentesis for the hemothorax without formal exploration of the gunshot wound. Under general anesthesia, a com-



Figure 4. PA chest showing opacification of left lung field interpreted as pneumonitis, later proved to be incarcerated abdominal viscera.

bined thoraco-abdominal exploration was performed with release of the strangulated splenic flexure of colon and repair of the diaphragmatic defect (figure 5). Because of the questionable viability of the colon and a perforation incurred in the unprepared bowel, it was elected to exteriorize the injured bowel as a temporary colostomy. He had a stormy post-operative course requiring two further procedures for the release of a small bowel obstruction and the drainage of a



Figure 5. Attenuated portion of transverse colon that had been incarcerated.

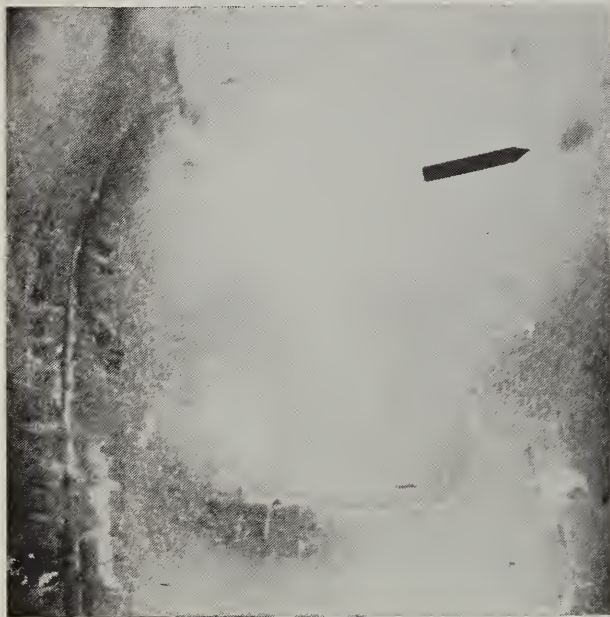


Figure 6. Healed thoraco-abdominal and colostomy site. Arrow indicates the entrance of old gunshot wound.

large pelvic abscess. He gradually recovered and was discharged from the hospital on the 27th post-operative day. He was re-admitted six weeks later for closure of the colostomy. Now we know this man was discharged from the Army with a bad-conduct discharge, a history of alcoholism and is known locally as a police character. He was understandably reluctant to divulge details of his past, medical or otherwise. Though knowing of the presence of the gunshot wound, it was still difficult to discern the external evidence of the wound on close examination of his chest (figure 6).

The second case is that of a 64-year-old white man who was referred for surgical treatment of a pyloric obstruction. He became acutely ill one week prior to admission and complained of severe upper abdominal distress and repeated emesis. At the same time, he noticed severe constipation which was not relieved by enemas. An upper gastrointestinal series was suggestive of volvulus of the stomach with an incarcerated diaphragmatic hernia (figure 7). The patient stated that approximately 15 years prior to admission, he was the driver of a car involved in a head-on collision. He sustained multiple rib fractures but apparently

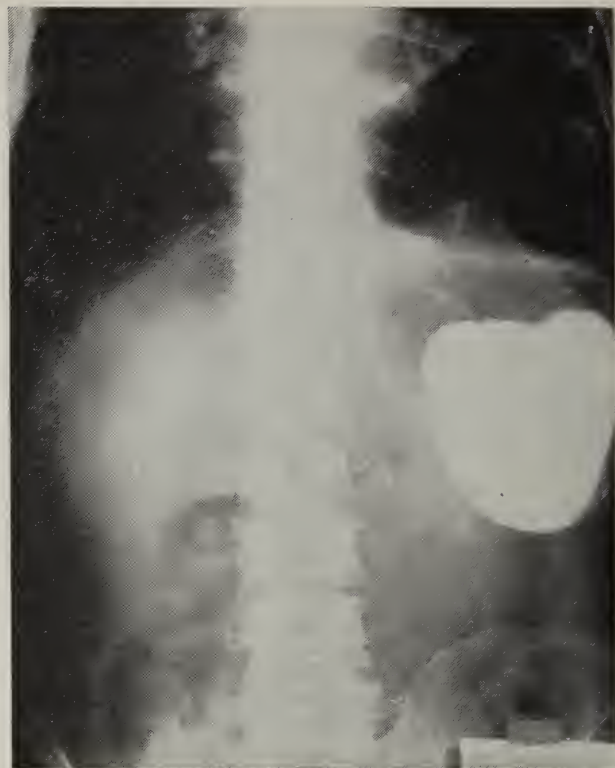


Figure 7. Incarcerated colon, left chest and volvulus of barium filled stomach.

made a good recovery. In the last several years, he had been plagued by intermittent bouts of upper abdominal and substernal distress which had been attributed to an "ulcer." Two years ago, he had a bout of pain somewhat like the present illness, attended by a loud gurgling noise in his abdomen which was relieved spontaneously when he sat up.

He was admitted to St. John's Hospital, Tulsa, and prepared for surgery by correction of his fluid and electrolyte imbalance, and institution of nasogastric suction. Laparotomy confirmed the presence of an incarcerated diaphragmatic hernia, and the findings reconstructed the pathogenesis of the illness. The greater omentum occupied the diaphragmatic defect, approximately eight cm in diameter in the dome of the left diaphragm. It was necessary to enlarge the defect to permit reduction of its contents. The incarcerated transverse colon was discolored but promptly exhibited normal circulation after being reduced to the abdomen. Apparently, the obstruction of the stomach had been caused by the distortion of the pylorus as the greater omentum and the leading edge of the transverse colon had been pulled upward into the chest. The non-viable omentum was resected and the margins of

the rent in the diaphragm were freshened and imbricated using interrupted No. 1 silk. His post-operative course was uncomplicated and he was discharged from the hospital on the eleventh post-operative day. Films taken post-operatively, indicate the left lung is well expanded. He is currently asymptomatic.

SURGICAL TECHNIQUE

There are three possible routes for the correction of acquired diaphragmatic hernia: (1) abdominal, (2) thoracic, (3) combined thoraco-abdominal. Although we do not prefer to shingle the roof while working through the attic,³ we have repaired these defects primarily through the abdominal approach. The thoraco-abdominal approach would be the preferred route if one were confronted with a massive rupture of the diaphragm in acute trauma. This permits better exploration of the organs of the upper abdomen while allowing excellent exposure for the re-

pair of the diaphragm. Such exposure would be advantageous for a huge diaphragmatic rent with large amounts of gastrointestinal tract incarcerated high in the left pleural cavity.

SUMMARY

The etiology, pathogenesis and symptomatology of traumatic diaphragmatic hernias are presented. Without drastic changes in human nature and the withdrawal of high speed automobiles from the highway, it is likely that we shall be confronted with increasing numbers of this entity. Illustrative cases are presented with suggestions for surgical repair. □

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POLIOMYELITIS VACCINE

Besides the lives saved and the human suffering prevented, the poliomyelitis vaccine developed by Doctor Jonas Salk is credited with preserving over \$6 billion in economic resources according to the Health Insurance Institute in reporting a study by The National Foundation on the economic significance of the Salk vaccine from 1955 to 1961.

The study concerned only paralytic polio and showed that an estimated 154,000 cases were avoided during the seven-year span—as determined by the difference between actual cases of 1955-61 and the expected cases had there been no vaccine. Calculations disclosed that the Salk vaccine prevented an estimated 12,500 deaths; 36,000 severe paralytic cases; 58,100 moderately severe cases, 32,700 slightly disabling cases; and 14,300 cases without residual effects.

The Foundation first estimated medical care costs relative to the various degrees of

the disease's severity which would have been incurred over the seven-year period. These included costs for hospitalization, physician care, medical equipment, appliances, nursing, physical therapy and the like. The total cost, \$327 million.

Next the Foundation calculated the income which would have been lost by the 154,000 potential victims. Their estimate: \$6.4 billion.

Adding the two figures showed a gross of \$6.7 billion, the amount not expended or sacrificed by would-be victims of paralytic polio.

Last, the Foundation determined the actual cost of developing and administering the Salk vaccine to Americans. The grand total was \$653 million.

Subtracting the real expenditures from the probable costs of care and income loss, the net benefit came to \$6,063,500,000. □

Diabetes Mellitus in Choctaw Indians

CURTIS C. DREVETS, M.D.

An epidemiologic study suggests that diabetes mellitus is more prevalent in the Choctaw Indians of Southeast Oklahoma than in non-Indians. Only diabetics of the stable, adult-onset type were found.

THE PURPOSE of this paper is to describe the epidemiologic and clinical pattern of diabetes mellitus in the Choctaw Indians of Oklahoma.

The past decade has witnessed a surge of interest in the diverse clinical patterns of diabetes mellitus in different ethnic groups of the world. Before Joslin's¹ survey of diabetes mellitus in Arizona (1940) some observers thought the disease to be uncommon in the American Indian. Joslin found that diabetes is as prevalent among the Arizona Indians as among the non-Indians of that state. He suggested, however, that there might be differences among the tribal groups. This suggestion was confirmed by the observations of Cohen² in Arizona.

Data compiled by the Division of Indian Health (U.S. Public Health Service) show that diabetes mellitus accounts for a higher percentage of admissions to hospitals in the Division's Oklahoma City area than in other areas. The only publication on diabetes mellitus from this area is the study of Schochet³

from the Lawton Indian Hospital of the Plains Indians in Western Oklahoma. Diabetics accounted for 4.4 per cent of 9,978 hospital admissions during the period from 1951 through 1955. Schochet did not compare the number of admissions in the different tribal groups.

BACKGROUND

The Choctaw Indians lived in the present states of Alabama and Mississippi until the nineteenth century when most of the tribe moved to the Indian Territory and settled in southeast Oklahoma. Choctaws are smaller and fatter than the average white American and other Indians. They have round faces and brown skin. They do not have the high cheek and red or bronzed skin often found in other American Indians. Intermarriage with non-Indians is common in Oklahoma and admixture for several decades has tended to reduce the percentage of full-blood Choctaws.

The Talihina Indian Hospital, located in southeast Oklahoma, serves as the only Indian Hospital for approximately 10,000 Choctaws in the area. It is a 200 bed general medical, surgical and tuberculosis hospital which was opened in 1937.

METHODS

A retrospective chart review was made of all in-patients and out-patients who registered at the Talihina Indian Hospital between September 1, 1956 and August 31, 1961. The

charts of 7,950 persons having at least one-eighth Choctaw blood were inspected for date of birth, sex, degree of Indian blood, date first and last seen, admissions to the hospital in the past 15 years, and the presence and date of recognition of diabetes mellitus. The charts of all 241 diabetics were further inspected for height and weight at the time of diagnosis, family history of diabetes, complications, associated major illnesses, obstetrical history, laboratory studies, current treatment and degree of control. The criteria for the diagnosis of diabetes mellitus were a fasting venous blood sugar of 130 mg. per cent or a two-hour post-prandial blood sugar of 150 mg. per cent by the Folin-Wu method. Dietary histories were obtained by dietitians from several members of this tribe, both patients and hospital employees. It was not feasible to obtain extensive detailed dietary histories or direct observations of the eating habits from this study.

Prevalence⁴ is the proportion of a population who have a disease at a particular instant. Prevalence was determined by selecting from those seen both before and after the arbitrarily selected prevalence point, December 31, 1958, i.e., the persons known to have diabetes on that date. The incidence⁴ of a disease is the number of cases which appear during a specified period among a population. By computing the patient years of observation from the initial and most recent visit, the incidence of diabetes mellitus was calculated as the number of diagnoses per 1,000 patient years of observation. Incidence rates reflect the frequency of events

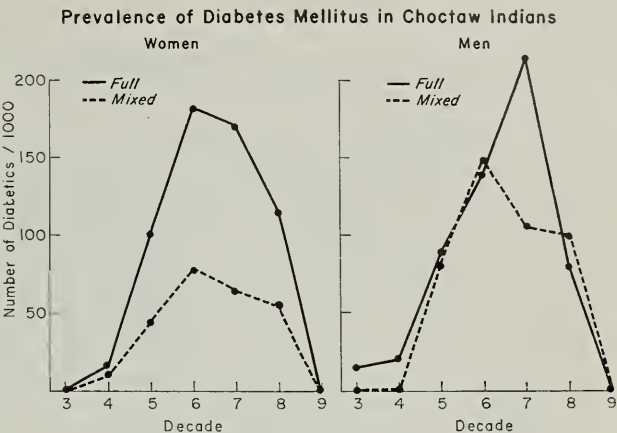


Figure I.

whereas prevalence rates connote existence.

RESULTS: EPIDEMIOLOGY

Three thousand, five hundred and seventy-five persons fulfilled the criteria of the prevalence study; 2,003 (56 per cent) were females, 1,572 were males. There were 1,993 full-blood* and 1,582 mixed-blood Choctaws.

The prevalence rate of diabetes mellitus was 53.2 per 1,000 in full-blood Choctaws and 18.3 per 1,000 in mixed-bloods of all ages. The prevalence rate was slightly higher for males than females. The prevalence rates by decades were computed for both sexes. These are shown in figure I and tables I and II. Diabetes was significantly more prevalent in full-blood Choctaw females than in mixed-bloods in each decade beyond the second. There were no significant differ-

*For purposes of this paper, persons less than full Choctaw but having one-eighth or more Choctaw lineage are spoken of as mixed-bloods. Those with total Choctaw lineage are referred to as full-bloods.

Table I
Prevalence of Diabetes Mellitus in Choctaw Indians
Females

Age (Yr.)	FULL BLOODS			MIXED BLOODS		
	Number	Diabetics	No./1000	Number	Diabetics	No./1000
0-9	195	0	0	213	0	0
10-19	179	0	0	225	0	0
20-29	201	0	0	116	0	0
30-39	179	3	16.8	104	1	9.6
40-49	138	14	100.2	67	3	44.8
50-59	121	22	182.0	51	4	78.5
60-69	88	15	170.8	46	3	65.3
70-79	43	5	116.3	19	1	52.6
80-89	18	0	0	6	0	0
TOTALS	1162	59	50.8	841	12	14.3

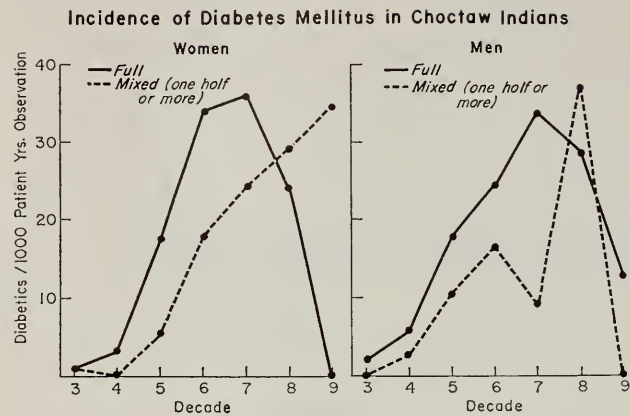


Figure II.

ences between male full-blood and mixed-bloods. There were no diabetics under 20 years of age.

The incidence of diabetes mellitus in Choctaws is shown in figure II and tables III and IV. In each decade having sufficient patient years of observation, the incidence was significantly higher in the full-blood than in the mixed-blood Choctaws. The incidence of diabetes in full-blood Choctaw males and females was similar in each decade except the sixth.

CLINICAL PATTERN

During a study period from September 1, 1956 through March 1, 1962, 241 Choctaw diabetics were observed at Talihina. Women comprised 56 per cent of the diabetics. Three patients had pancreatitis before developing diabetes.

In women, the age of diagnosis ranged

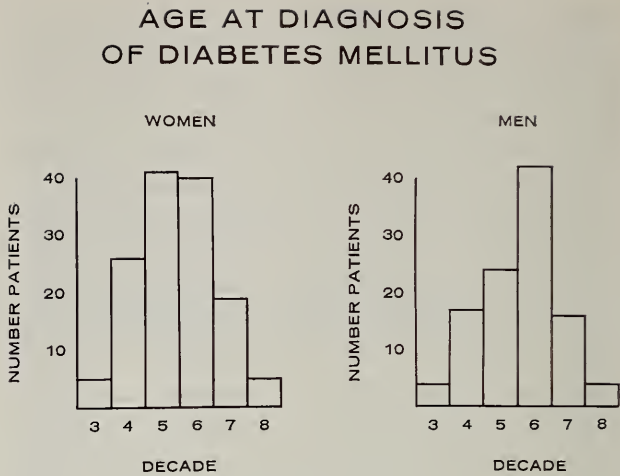


Figure III.

from 20 to 77 years with an average age of 48.9 years and a median age of 49 years. In men, the age of diagnosis ranged from 23 to 84 years with an average of 50.2 years and a median age of 51 years. Diabetes was found most frequently in the sixth decade in men and in similar numbers in the fifth and sixth decades in women (figure III). The average duration from diagnosis to the most recent visit was 6.0 years. Twenty-one per cent of the patients had been diabetic for ten or more years at their last visit. The family history was recorded on 200 patients. Eighteen per cent of the men and 32.5 per cent of the women had a family history of diabetes.

The age, height and weight at the time of diagnosis were compared with the average weight for various ages and heights obtained from standard tables⁵ (table V). Eight per cent of the women and nine per cent of the men were ten per cent less than the average

Table II
Prevalence of Diabetes Mellitus in Choctaw Indians

Males						
FULL BLOODS				MIXED BLOODS		
Age (Yr.)	Number	Diabetics	No./1000	Number	Diabetics	No./1000
0-9	183	0	0	251	0	0
10-19	143	0	0	192	0	0
20-29	72	1	13.9	80	0	0
30-39	104	2	19.2	63	0	0
40-49	90	8	88.9	50	4	80.0
50-59	101	14	138.6	47	7	149.0
60-69	90	19	215.0	38	4	105.2
70-79	38	3	79.0	20	2	100.0
80-89	10	0	0	0	0	0
TOTALS	831	47	56.6	741	17	22.9

Table III
Incidence of Diabetes Mellitus in Choctaw Indians

Females						
FULL BLOODS				MIXED BLOODS*		
Age (Yr.)	Pt. Yrs.‡	Diabetics	No./1000 Pt. Yrs.‡	Pt. Yrs.‡	Diabetics	No./1000 Pt. Yrs.‡
0-9	1137.5	0	0	938.8	0	0
10-19	1347.5	0	0	925.0	0	0
20-29	2307.5	2	0.9	998.8	1	1.0
30-39	1835.0	6	3.3	813.0	0	0
40-49	1398.8	26	18.6	522.5	3	5.7
50-59	1013.8	35	34.5	480.0	9	18.8
60-69	582.5	21	36.0	286.3	7	24.5
70-79	371.3	9	24.2	101.3	3	29.6
80-89	105.0	0	0	28.8	1	34.7

*—Mixed bloods include only those with one-half or more Indian blood

‡—Patient years of observation in decade

weight. Seventy-seven per cent of the women and 63 per cent of the men were ten per cent or more than the average weight. In both sexes obesity was more common in those under 50 years of age. Fifty-three per cent of a group of healthy, non-diabetic Choctaw women and 45 per cent of the men were ten per cent or more overweight by the same standards. Choctaw diabetics were significantly more obese than the non-diabetics ($p < .001$ for women and $< .01$ and $> .001$ for men).*

*Chi square method.

THERAPY

At their last visit 80 patients (33 per cent) were being treated by diet alone (table VI). Twenty-nine (12 per cent) were receiving tolbutamide in addition to the diet. One hun-

dred twenty-three (51 per cent) were being treated with diet and insulin. Of those patients receiving insulin 83 (68 per cent) were taking less than 40 units of insulin and only 3 (2.4 per cent) were taking 80 units or more.

DEGREE OF CONTROL OF DIABETES MELLITUS

The degree of control was classified as poor, fair or good in those who had been observed over a period of at least one year. The control was considered good if the majority of the fasting blood sugars were less than 140 mg. per 100 ml. Control was considered fair if the majority of the blood sugars were between 140 and 200 mg. per 100 ml. Thirty-four per cent of 168 dia-

Table IV
Incidence of Diabetes Mellitus in Choctaw Indians

Males						
FULL BLOODS				MIXED BLOODS*		
Age (Yr.)	Pt. Yrs.‡	Diabetics	No./1000 Pt. Yrs.‡	Pt. Yrs.‡	Diabetics	No./1000 Pt. Yrs.‡
0-9	995.0	0	0	817.5	0	0
10-19	707.5	0	0	555.0	0	0
20-29	513.8	1	1.9	373.8	0	0
30-39	640.0	4	6.3	372.5	1	2.7
40-49	868.8	16	18.4	372.5	4	10.7
50-59	983.8	24	24.4	358.8	6	16.7
60-69	652.5	22	33.7	221.3	2	9.0
70-79	276.3	8	29.0	53.3	2	37.6
80-89	80.0	1	12.5	7.5	0	0

*—Mixed bloods include only those with one-half or more Indian blood

‡—Patient years of observation in decade

betics evaluated by these criteria were in good control and 40 per cent in fair control (table VII). Of those receiving diet alone 63 per cent were in good control and 37 per cent in fair control. Thirty-five per cent of patients on diet plus tolbutamide were in good control and 55 per cent were in fair control. Control was poorer in those on diet and insulin: only 19 per cent were in good control and 39 per cent in fair control. Maximum blood sugars ranged from 118 to 840 mg. per 100 ml. The highest recorded blood sugar in 11 patients was more than 500 mg. per 100 ml.

COMPLICATIONS

There were no known diabetic complications in 199 (83 per cent) of the diabetics. There had been one or more of the following diabetic complications in 42 patients: gangrene, acidosis, retinopathy, nephropathy, neuropathy, and hypoglycemia. Nineteen of 42 poorly controlled patients had 28 complications, 16 of 68 with fair control had 21 complications and only four of 57 diabetics in good control had four complications. The most frequently observed complication was gangrene which occurred in 16 (6.6 per cent). Diabetic acidosis was not observed in the absence of infection. The frequency of various complications is listed in table VIII. There were no significant differences in the frequency of diabetic complications between the full and mixed-bloods.

Table VI
Therapy of Diabetes Mellitus

Therapy	Number	Per Cent
Diet Only	80	33
Diet Plus Tolbutamide	29	12
Diet Plus Insulin	123	51
1-39 units	83	
40-79 units	37	
80 or more units	3	
Unknown	9	4

ASSOCIATED ILLNESSES

The associated illnesses were recorded without time relationship to the patients' diabetes (table IX). Gallbladder disease, diagnosed in 47 (19.5 per cent) diabetics was approximately twice as frequent in the obese as in the non-obese diabetics. The number of severe infections and cardiovascular diseases (all forms) was small. Lens opacities were noted in 43 diabetics (18 per cent). These illnesses occurred in similar percentages in the full and mixed-bloods.

OBSTETRICAL HISTORY

The obstetrical history was adequately recorded on 70 women. A scattergram (figure IV) considering the number of pregnancies, age at diagnosis of diabetes and family history showed no relationship between the age at diagnosis and the number of pregnancies. Patients with more pregnancies did not develop diabetes earlier in life than those who had less pregnancies. Women having a family history of diabetes tended to have fewer pregnancies than those with negative

Table V

Weight at Diagnosis of Diabetes Mellitus Compared to Non-Diabetic Choctaws

	Under Weight < -10%	Over Weight +10 to 29%	Obese > +30%	Normal -9 to +9%	TOTALS
WOMEN					
Diabetics	8%	33%	44%	15%	91
Non-Diabetics	5%	36%	17%	42%	77
MEN					
Diabetics	9%	36%	27%	28%	65
Non-Diabetics	12%	38%	7%	43%	86

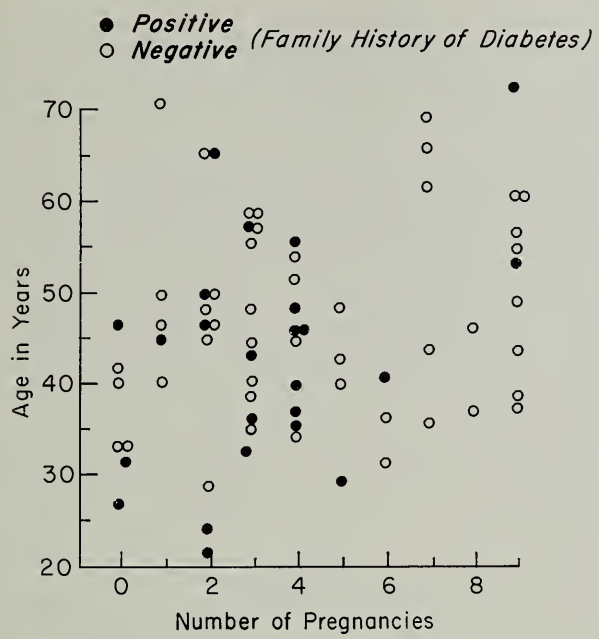
Compared with standard table including age and height (see text)

Significance by Chi Square method:

Women — $P < .001$

Men — $P < .01$ and $> .001$

Obstetrical History in Choctaw Diabetics



family histories. A significantly higher percentage of those with a positive family history had four or less pregnancies, while of those with a negative family history almost as many had more than four pregnancies (table X). This seemed to be unrelated to the age at diagnosis. Only three of the 135 women delivered a baby after the onset of their diabetes.

LABORATORY FINDINGS

The average serum cholesterol in 40 diabetic patients was 243 mg. per cent with a range of 89 to 428 mg. per 100 ml. Sixteen (40 per cent) of these were 250 mg. per 100 ml. or more. Persistent proteinuria (1 plus or more) appeared in 36 diabetics (15 per cent). The average interval between the diagnosis of diabetes mellitus and the appearance of proteinuria was 6.1 years. Azo-

Table VII
Degree of Control of Diabetes Mellitus

Therapy	Number Evaluated	% of Evaluated		
		Good*	Fair*	Poor*
Diet Only	51	63	37	0
Diet Plus Tolbutamide	20	35	55	10
Diet Plus Insulin	97	19	39	42
1-39 units	66	23	45	32
40-79 units	29	10	28	62
80 or more units	2	0	0	100

*See text for definition

Table VIII
Complications of Diabetes Mellitus in Choctaw Indians

	Degree of Control				Per Cent Complications of Total*
	Good	Fair	Poor	Unknown	
Patients with Complications	4	16	19	3	17.4
Gangrene	0	6	9	1	6.6
Acidosis	2	2	6	1	4.6
Retinopathy	0	4	4	0	3.3
Nephropathy	1	4	2	1	3.3
Neuropathy	0	1	2	0	1.2
Hypoglycemia	1	4	5	0	4.1

*Without regard to degree of control

temia (blood urea nitrogen 30 mg. per 100 ml. or more) was observed in 14 (5.8 per cent) after an average interval of 11.4 years from the time of diagnosis of diabetes.

DIETARY HABITS

Inquiry made into the diet of the full-blood Choctaws revealed that their food consists primarily of beans, fat pork, lard and starches. It is common practice for them to fry fat pork and then to fill the frying pan with water and flour. The fat-laden gravy is then either dipped up in several large Choctaw biscuits which are four to five inches in diameter or poured over cooked beans. Whether the Choctaws have two or three meals daily, many eat each meal as if it were their last. Although dietary histories represent hearsay, it is probable that they often consume 4,000 calories or more per day. The diet by average United States standards contains little protein but much carbohydrate and fat. These comments concern the diet of the full-blood Choctaws, however the diet in mixed marriages depends primarily on the ancestry of the spouse.

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Diabetes / DREVETS

Table IX
Associated Illnesses in Choctaw Diabetics

Illness	Number Observed	Per Cent*	Degree of Control		
			Good	Fair	Poor
Gallbladder Disease	47	19.5	12	15	15
Cardiovascular Disease	64	26.6	10	24	17
Cancer	7	2.9	2	1	1
Tuberculosis	16	6.6	9	3	2
Genitourinary Infections	14	5.8	2	7	3
Other Major Infections	25	10.3	5	8	8

*Without regard to degree of control

DISCUSSION

Many authors record a variety of figures for the prevalence of diabetes mellitus. Most studies record figures for hospital or clinic admissions or small population samples screened by various means. Wilkerson and Krall,⁶ in one of the few noteworthy epidemiological investigations of diabetes, found a prevalence rate of 11/1000 known diabetics and 9/1000 new diabetics. Tullock⁷ suggests that the prevalence of diabetes in the tropics varies from 1/1000 in Southern Rhodesians over 14 years of age to 142/1000 in a small series of Mabuia Islanders of all ages. Sloan⁸ found that the prevalence of diabetes varies among ethnic groups from 11/1000 in Caucasians to 78/1000 in unmixed Hawaiian natives in a survey of the Hawaiian labor force. Most surveys report a prevalence of less than 20 diabetics per 1000 of all ages. In 1959 the estimated prevalence of known

diabetics in the United States was 9.0/1000 (all ages).⁹

Although a systematic screening procedure was not used, this prevalence and incidence study was based on persons attending a hospital and a clinic which provide almost exclusive care for everyone in the group. An estimated 80 per cent of the Oklahoma Choctaws had registered during the study period. Almost all patients had a blood sugar determination or urinalysis at some time at Talihina. The differences in the observed incidence and prevalence rates between full-blood Choctaws and those having only part Choctaw blood are interesting and significant. Both ethnic groups were observed under the same conditions. Diabetes is considered by some as being transmitted along Mendelian recessive lines.^{4, 5} Inbreeding in a minority group would thus increase mating of persons carrying the diabetes trait and intensify the increased prevalence of diabetes. The intermarriage of Choctaws with non-Indians decreased their chances of becoming diabetic.

Scott and Griffith¹⁰ found diabetes to be uncommon in Eskimos. Cohen² concluded that prevalence of diabetes varies among the several Arizona tribes. It is difficult to compare tribal variations in the prevalence of diabetes from the available material because each study was conducted in a different manner. Because of the delineation of blood lines, the American Indian offers a unique

Table X
Correlation of Family History of Diabetes Mellitus with Number of Pregnancies
Choctaw Women age 20-48

Family History		NUMBER OF PREGNANCIES		
		Four or Less	Five or More	TOTAL
NEGATIVE	Observed	17	13	30
	Expected	20.4	9.6	
POSITIVE	Observed	15	2	17
	Expected	11.6	5.4	

P < .5 and > .02

subject for such studies. There is a particular need for well planned field surveys of various American Indian tribes. Two small field surveys among 100 Choctaw Indians discovered six previously unknown diabetics.¹¹

We did not find any type I or juvenile diabetics among the Choctaw Indians despite careful search. Using commonly accepted figures¹² we should have expected approximately 12 juvenile diabetics. The Talihina Indian Hospital has record of only one diabetic under the age of 20 years among more than 300 diabetics of all tribes seen during the period of this study. This was a teenage full-blood Creek boy with typical juvenile diabetes. Cohen² did not find any juvenile diabetics among 56 Arizona Indian diabetics. Neither have we observed any Type "J" diabetics of the sort described by Hugh-Jones¹³ in Jamaica.

Difficulty in recording diabetic complications probably accounts for the discrepancy in the number of patients having diabetic nephropathy and the number with azotemia and proteinuria. All proteinuria in diabetics is not, of course, caused by diabetic nephropathy. I examined about a third of the diabetics in the study and found their rate of complications was similar to that of the entire group. Physicians working with Oklahoma Indians have had the impression that diabetic complications are less frequent than in non-Indians in this country. Comparison with other published studies is difficult but supports this impression.¹³⁻¹⁸

Do the dietary habits of the Choctaws contribute to the prevalence of diabetes mellitus? I have observed several instances of both marital partners developing diabetes after years of eating at the same table. Since inquiry about the family history for diabetes mellitus usually does not include the spouse, we have no data about the frequency of diabetes mellitus in both marital partners.

SUMMARY

This paper reports the incidence, prevalence and clinical characteristics of diabetes mellitus in Choctaw Indians of Oklahoma. The prevalence of diabetes in full-blood Choctaws of all ages was 53.2/1000 but was 18.3/1000 in Choctaws of less than full-blood. The incidence of diabetes was also

greater in full-bloods than in mixed bloods. Juvenile-type diabetes was not observed. The clinical picture of diabetes was similar to non-Indians in the United States. Obesity, gallbladder disease and diabetic gangrene were common. The "average" Choctaw diet appeared to contain less protein but more carbohydrates and fat than the average American diet.

ACKNOWLEDGMENTS

I wish to express appreciation to Hans Wulff, M.D., James A. Hagans, M.D., Ph.D., and Margaret Shackelford of the Departments of Internal Medicine and Public Health and Preventive Medicine and the Biostatistical Unit and Medical Research Computer Center, University of Oklahoma Medical Center, and Herbert A. Hudgins, M.D., M.P.H., and Donald L. Mason of the Oklahoma City Indian Health Area Office for their invaluable assistance in the design of this study, the analysis and statistical work. I also wish to thank Mildred B. Barry, B.S., M.S., Oklahoma City Indian Health Area Office, for the dietary information and Daniel B. Stone, M.B., State University of Iowa Hospitals, for his helpful criticism in the preparation of this paper. □

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Each tablet and each 5 cc. of liquid contains:

diphenoxylate hydrochloride2.5 mg.

(Warning: May be habit forming)

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tablets • liquid

slows propulsion



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stops diarrhea



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Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia.

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Children:

- 3 to 6 months—3 mg. ($\frac{1}{2}$ tsp.* t.i.d.)
- 6 to 12 months—4 mg. ($\frac{1}{2}$ tsp. q.i.d.)
- 1 to 2 years—5 mg. ($\frac{1}{2}$ tsp. 5 times daily)
- 2 to 5 years—6 mg. (1 tsp. t.i.d.)
- 5 to 8 years—8 mg. (1 tsp. q.i.d.)
- 8 to 12 years—10 mg. (1 tsp. 5 times daily)

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- 20 mg. (2 tsp. 5 times daily or
- 2 tablets 4 times daily)

**Based on 4 cc. per teaspoonful.*

Maintenance dosage may be as low as one fourth the therapeutic dose.

Lomotil is a brand of diphenoxylate hydrochloride with atropine sulfate; the subtherapeutic amount of atropine is added to discourage deliberate overdosage.

SEARLE

*Research in the
Service of Medicine*

Public Health and The Mentally Retarded Child

KIRK T. MOSLEY, M.D.
JOHN W. SHACKELFORD, M.D.

The services of many professional groups and agencies are necessary to deal with the problems of mental retardation. This paper describes some of the contributions of public health and medicine.

MANY SERVICES are necessary in an attempt to meet the problems of mental retardation. Many professions, many agencies, public and private, must be involved. There are varying degrees of mental retardation, varying associated physical handicaps, and a variety of facilities needed to serve the mentally retarded and their families.

The number of mentally retarded is generally set at three per cent of the total population. Three-fourths of these are mildly retarded and usually classed as educable. With proper training and guidance most of the individuals in this group can hold a job and be self supporting. One-fifth are moderately retarded and can be trained to meet their personal needs. The remainder, or about five per cent of the total, are severely retarded and are dependent. Some of these severely retarded can best be cared for in institutions, some in community homes especially prepared to accept them. Day care facilities can best meet the needs of the other groups and their families. In any

event, the vast majority of retarded are best served in their own communities as members of the family and community.

PREVENTION

"The full application and utilization of existing knowledge by action on a broad front, encompassing measures to correct adverse community conditions as well as to take specific preventive measures, would eliminate perhaps half or more of all new cases of mental retardation."¹

Whatever the approach to the problem, prevention must have top priority. The basic attack on this aspect of the problem by the Health Department is in the area of specific preventive measures. For example, congenital syphilis has been virtually eliminated as a cause of mental retardation. This was possible through an aggressive public health program of syphilis control utilizing epidemiologic methods, the legal requirement for premarital testing for syphilis, and systemic use of blood tests during pregnancy followed by effective therapy.

Since 1942, the Division of Maternal and Child Health of the State Department of Health, with a committee from the Oklahoma State Medical Association, has studied maternal deaths occurring in the state and has supported medical education to improve obstetrical practice in the state. This has, without doubt, helped to reduce the number of brain damage cases leading to mental retardation resulting from anoxia, mechanical and

other types of brain injuries during delivery. Encouraging results have been achieved also in avoiding brain damage associated with blood incompatibilities between mother and infant by routine prenatal blood tests for early identification of the condition and prompt exchange transfusions in an affected infant. Rh determinations on prenatal blood specimens was initiated in the State laboratory ten or 15 years ago and is still done routinely for physicians outside the two metropolitan areas of the state.

New preventive possibilities have come about with better understanding of some of the inborn errors of metabolism, phenylketonuria for example. The Guthrie biological inhibition assay seems to offer a reasonably satisfactory screening method for early detection of this disorder. It is considered a reliable test if the blood is taken 48 hours or more after the infant has started on a feeding schedule. The procedure for collecting and sending blood specimens to the laboratory is relatively simple. Three drops of blood are collected and allowed to dry on a special filter paper (supplied by the State Health Department) which is mailed to the laboratory for assay. Verification of this test by an independent method is recommended. At least one laboratory in Oklahoma is running a fluorometric determination which seems to give reliable results. Nine hospitals are now routinely sending in blood specimens to the state laboratory before newborn infants are discharged. Thus far, the testing program has found three infants on whom a presumptive diagnosis of phenylketonuria has been made by the family physician. The infants have been placed on a low phenylalanine diet and seem to be developing with little or no neurological damage. In Massachusetts, where the test is done routinely on all newborn infants, the disease is being found at the rate of one per 9,000 births. Screening techniques for other inborn errors of metabolism are being developed. When these are of proven practical value, they should be offered to physicians in the state.

With the assistance of the University of Oklahoma Medical Center, studies are underway on the feasibility and methods by which a genetic counseling service may be developed for selected conditions. Obviously, such a

service would be designed to assist the family physician in providing medical and health care to his patients.

The Division of Sanitary Engineering of the State Health Department is carrying on educational and consultative services as a means of keeping within safe limits radiation from medical and non-medical equipment which produces ionizing radiation. Preparations are being made, with the assistance of the State Medical Association, for a state-wide medical x-ray survey. With the cooperation of the State Dental Association, survey of x-ray equipment in dental offices was completed in January, 1962.

The Division of Maternal and Child Health and the Division of Health Statistics have been making analyses of vital records for a number of years in an effort to pinpoint some of the perinatal problem areas. A paper summarizing one of these studies was published in the October, 1959 issue of the *Journal of the Oklahoma State Medical Association*.²

A more specific three-year study of our vital records, in an effort to throw more light on the perinatal problems in the state, will be completed in a few months. A paper setting forth these findings is in preparation and will be published in the *Journal of the Oklahoma State Medical Association*. Other summaries will be prepared, emphasizing the pediatric and epidemiologic aspects of the perinatal problem area, as information becomes available from studies now going on of birth and death records.

A perinatal problem study, a joint effort of the Division of Maternal and Child Health, the Department of Obstetrics and Gynecology, the Department of Pediatrics, and the Department of Preventive Medicine at the University of Oklahoma Medical Center, is now under way. The purpose of the study is to evaluate the relationship of obstetrical and neonatal factors to infants' need for special care by the family physician and public health personnel. The hypothesis is that certain established factors or combination of factors will identify infants with high priority need for such attention. The development of a method of early identification of these infants would be a factor, not only in the prevention of neurological damage, but could insure more prompt care and minimize

the results of whatever damage has already occurred. This project has the support of the Perinatal Problems Committee of the Oklahoma State Medical Association.

The national concern for more adequate care of pregnant women and newborn infants in high risk groups is shared by physicians and public health workers in Oklahoma. As stated in a recent publication of the Children's Bureau:

"There are large numbers of women in low income families who are receiving poor or no prenatal care, who have a high incidence of complications of pregnancy and who deliver prematurely two or three times as frequently as the average for the nation as a whole. Such infants are especially vulnerable to brain damage, neurologic disability, and mental retardation."³

Grants are available to assist communities in attacking problems of maternal and infant care.

"In order to reduce mental retardation caused by complications associated with childbearing . . . grants may be approved for projects . . . for the provision of necessary health care to prospective mothers (including, after childbirth, health care to mothers and their infants) who have or are likely to have conditions associated with childbearing which increase the hazard to the health of the mothers and their infants (including those which may cause physical or mental defects in the infants) and whom the State or local health agency determines will not receive necessary health care because they are from low income families or for other reasons beyond their control."³

Representatives from medicine and public health are studying the needs and feasibility of project grants to help finance a comprehensive pilot program in Tulsa and Oklahoma Counties, a joint effort of the two, to reach a high risk group with a service that will be effective in minimizing the hazards to the health of mothers and their infants. Many local health departments hold prenatal clinics for low income groups but are not able to provide service as envisioned in pilot programs.

In Lawton a prenatal clinic has recently opened at the health department staffed by local physicians. These doctors not only give prenatal care to the low income, high risk group, but also offer delivery service in the local hospitals for these women. Pediatricians are available to see newborns where there is evidence of trouble. This high grade service was initiated by local physicians in the area.

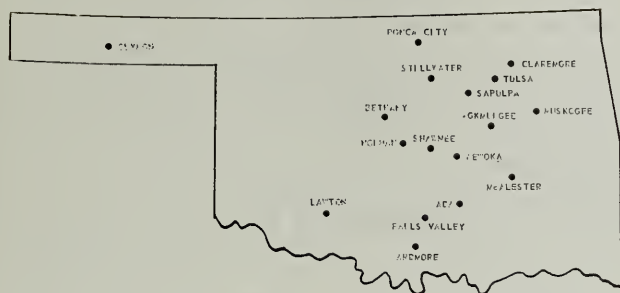
In Altus, where there is a large number of low income families, practicing physicians see expectant women in their offices as private patients for an initial examination. From here, these women are sent to the health department clinic to be seen periodically until near the time of delivery. A summary of this prenatal history is sent to the Western Oklahoma General Hospital at Clinton a short time prior to the expected date of confinement. The patient is then sent there for delivery. Before delivery, the physician who saw the case initially is available for consultation or treatment in case of signs or symptoms indicating trouble. In some instances, where it is evident that the delivery is imminent and the patient cannot get to Clinton, the physician delivers the patient in a local hospital. There are other instances throughout the state of teamwork between practicing physicians and public health nurses in an effort to meet the needs of pregnant women in the low income, high risk group, but these seem to be unique.

Another program in maternal health which holds great promise is that of classes for expectant parents led by specially trained public health nurses. These are basically discussion groups and deal with emotional as well as physical aspects of pregnancy. The Division of Maternal and Child Health has a consultant nurse who aids local nurses in setting up and coordinating these classes. All classes are established with the support of local physicians and private cases are included in the discussion only on recommendation of their own physician. Many physicians are calling on public health nurses to go into the homes of selected expectant mothers to assist with interpretation of instructions.

Another area of concern in prevention of mental retardation is that of day care, particularly for children of working mothers. It is important that the personnel in the facilities where these children are placed are

COMMUNITY GUIDANCE CENTERS

as part of Local Health Departments or partially supported by State Health Department funds.



in sufficient numbers and have the type of personality and training conducive to sound emotional and social development of the child. This is vital to intellectual growth and good personality development. The health departments in Tulsa and Oklahoma counties have a full time child-development specialist on their staff to assist day care operators in developing and maintaining a high standard of care for children entrusted to them. The Welfare Department has a major responsibility for certain types of day care facilities, since it is the licensing agency, and establishes standards for licensure purposes.

DIAGNOSTIC EVALUATION

"While the family physician is in a strategic position to identify and refer 'suspect' infants and young children, he cannot be expected to detect all who are mentally retarded. As mentioned earlier, most retarded children are not identified until sometime after they enter school. The majority of mildly retarded children do not present organic deviations which can be detected by currently available techniques of medical examination; therefore, identification may often be achieved only through careful psychological examination. A comprehensive diagnosis and evaluation of a mentally retarded child and his family in a community health clinic or an outpatient department requires the contributions and cooperation of several professions. (Hence, the term, 'interdisciplinary' or 'multidisciplinary' frequently used to describe these clinics.) The physician, including the pediatrician, psychiatrist, neurologist, the psychologist, the nurse, the social worker, the special educator, the audiologist, the

speech pathologist, and frequently others, all have important contributions to make."¹

To bring these services as near to the problem as possible and accessible to physicians, families and community agencies, many of our local health departments have added psychological services to their programs. See illustrative map. In addition, guidance programs in Muskogee, Lawton, Norman and Bethany include services of social workers. Seven centers have added speech evaluation services. Psychiatric consultation is available in most of these centers. Lawton has the bi-monthly services of a pediatric neurologist. Community public health nursing services are available in all of these programs. In all instances these services are under medical direction. The basic plan is to have health department professional groups work with the practicing physicians in the county. Best results can be

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Doctor Mosley is a Fellow of the American Public Health Association, a member of the American College of Preventive Medicine and a member of the executive committee of the Association of State and Territorial Health Officers Association.

A graduate of Tulane University School of Medicine, John W. Shackelford, M.D., has been certified by the American Board of Preventive Medicine and Public Health. He is Assistant Professor of the Department of Preventive Medicine and Public Health and Associate Clinical Professor of Pediatrics at the University of Oklahoma School of Medicine.

Doctor Shackelford is a Fellow of the American Public Health Association and is President-Elect of the Oklahoma Public Health Association.

had only if a practicing physician—the family's own physician—assumes his role of leadership on the interdisciplinary team.

"Is mental retardation present or are the symptoms of social and intellectual inadequacy a more direct function of certain sensory or emotional factors? What is the cause(s) of the present condition? What additional handicaps (general health, sensory, language, motor, behavioral, emotional) are present and how severe are these? What is the relationship of the handicap to other aspects of the physical, social, and psychological development of the child."⁴

Community resources should be developed as needed and utilized. The closer at hand a service is to the family that needs it, the easier it is to reach these children at an early age when services can be most effective. However, more difficult cases must continue to be referred to larger medical centers for evaluation but most cases can be returned to the community to be followed by their own physician with the help of public health and other community resources.

COUNSELLING

Counselling is a vital element in management of the handicapped. This may be done by the private physician, psychologist, social worker, or the public health nurse, depending on the individual situation. Parent counselling involves interpretation of the medical, psychological, and social findings of the guidance center.

"These parents need assistance in understanding the whys and hows and the prognostic implication of the evaluation findings. They need assistance in attaining an emotional acceptance of implications. Therapeutic help of a rather long term nature is frequently necessary before the parents are able to understand and accept their own personal reactions to the retarded child and the multiple problems which arise."⁴

Because these guidance centers are distributed over the state, accessible to family and professional workers, they are of value in planning and managing problems in child

development, family adjustment, schooling, vocational training, and of adult living. These guidance services also provide periodic follow-up both for the evaluation of the handicaps and for insuring that full advantage is being taken of treatment, training and care resources.

HOME TRAINING

The public health nurses throughout the state are serving as a valuable resource, not only in case finding, but in assisting the families in home training of the mentally retarded child. Simple matters of feeding, dressing, going to the bathroom, and meeting other personal needs may become real problems in the families of these children. The public health nurse, with a ready entree into the homes of the community, is able to assist in working through emotional problems by finding ways and means of helping the child to take full advantage of his capabilities.

TRAINING OF PROFESSIONAL PERSONNEL

The Mental Retardation Training Center, a center for training professional workers who work with mentally retarded, was established with a grant from the Children's Bureau at the Children's Medical Center in Tulsa in 1957. The Center serves the Region; in fact, it has offered training to professional people not only from Oklahoma but many of the surrounding states. It offers training to a variety of professional groups—medicine, psychology, social work, public health nursing, and others. It also offers courses for special education teachers, ministers, police and others. The Center also serves as a diagnostic service to Northeast Oklahoma, complementing the local diagnostic evaluation services in community guidance centers. □

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3400 North Eastern, Oklahoma City, Oklahoma

Duodenal Stump Perforation

MICHAEL RUDKO, M.D.
WILLIAM E. PRICE, M.D.

Although the cause of duodenal stump perforation remains obscure, possibly future statistics can be altered by decisions made at the operating table.

THE LEADING CAUSE of morbidity and mortality following a Billroth II gastrectomy is still related to perforation of the duodenal stump with resultant soiling of the peritoneal cavity.

Several factors appear to be important in the development of a stump disruption. Most frequently mentioned is a lesion of the duodenum that precludes satisfactory closure of the cuff. Too much denuded duodenum distal to the cuff results in a diminished blood supply and therefore poor healing. Obstruction of the afferent loop and infection, plus a poor state of nutrition, have been incriminated as contributing factors. In general, the most important factor in the final analysis is the judgment and skill of the surgeon himself when faced with each difficult duodenal stump.

Although the total number of gastrectomies per se has decreased because other less extensive procedures are being done, the incidence of duodenal stump leakage has not decreased appreciably in spite of advancement in surgical technique, fluid replacement

therapy, the use of antibiotics, and knowledge and application of nutritional factors. Is this a statistical truth unaltered by any attempts of the surgeon? We think it is not. For this reason this study was carried out.

INCIDENCE AND MORTALITY

The medical records of patients who had had Billroth II gastrectomies performed during the past ten years at the University of Oklahoma Medical Center were reviewed. A total of 808 procedures were done in which gastrointestinal continuity was re-established by gastrojejunostomy. There were 32 cases of duodenal stump perforation, an incidence of four per cent. Twelve patients died as a direct result of this complication, a mortality rate of 38 per cent. This rate compares favorably with other series reported in the medical literature.

AGE AND STATE OF NUTRITION

In this series of stump disruptions, the average age of the patients who died was 58 years. Those who recovered averaged 49 years of age. This would indicate that, as with other major complications, the elderly patient is more vulnerable to a fatal outcome. The incidence of duodenal stump leakage, however, does not appear to be related to the age of the patient.

It is difficult, if not impossible, to assess the state of nutrition of the patients in this series. However, the incidence of duodenal stump leakage in those patients who had a Billroth II gastrectomy for carcinoma of the stomach was less than the four per cent

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Indication For Surgery	Duodenal Stump Leakage	Number of Deaths	Per Cent Mortality
Elective (Intractability)	12	1	8.3
Hemorrhage	12	8	66.6
Obstruction	7	3	42.9
Perforation	1	0	0

Figure 1. Relation of indication for surgery to duodenal stump leakage and subsequent mortality.

incidence for the entire series. This is shown by the fact that only one patient in the series of 32 leakages was operated for carcinoma of the stomach. Thus, the state of nutrition may well be a contributory factor in the etiology of this syndrome but it appears to be of secondary importance.

INDICATION FOR SURGERY

In this series of 32 cases of duodenal stump perforation (figure 1), 12 occurred in patients who had undergone elective surgery for peptic ulceration or neoplastic disease. Only one patient in the group died as a result of this complication. The remaining 20 patients with stump disruptions had undergone surgery on a more or less emergency basis—acute hemorrhage, severe obstruction or perforation. In this group there were 11 deaths, a mortality rate of 56 per cent.

There were 312 Billroth II gastrectomies performed at the Oklahoma City Veterans Administration Hospital: 245 were done on an elective basis and 67 were emergency procedures. In each of these two groups there were ten duodenal stump perforations, indicating that stump disruption in this series is

Management of Stump	Number of Patients	Number of Deaths	Per Cent Mortality
Drained with Penrose drain	20	5	25
Not drained	12	7	58

Figure 2. Relation of stump drainage to mortality.

four times more frequent in patients undergoing emergency resections.

MANAGEMENT OF THE DUODENAL STUMP

Twenty of the 32 patients with duodenal stump perforation at the Medical Center had Penrose drainage instituted at the time of the initial surgery and five of them died, a

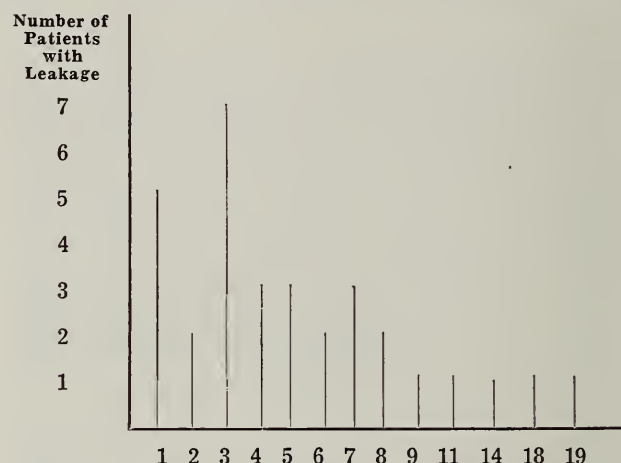


Figure 3. Post-operative days. Illustration of the post-operative days in which leakage occurs.

mortality rate of 25 per cent (figure 2). The remaining 12 cases of stump leakage were not drained initially and seven of them died. The mortality rate was 58 per cent.

At the Veterans Administration Hospital, there were 312 gastrectomies, 213 were not drained and seven stumps leaked (3.3 per cent); 91 had Penrose drainage, and 13 of these had duodenal stump leakage (14 per cent). Eight other patients had catheter duodenostomy and all of them had an uneventful post-operative course.

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Doctor Price is Assistant Professor of Surgery at the University of Oklahoma School of Medicine.

It is obvious from these statistics that the incidence of duodenal stump perforation was five times higher following Penrose drainage than when no drainage was used. The mortality rate appears to be inversely related to the use of drainage as the results in figure 2 indicate. It is fair to note that in most instances where drainage was used it was felt by the surgeon that the closure of the duodenal cuff was either poor, inadequate or unsafe. Had drainage not been instituted in these cases, it seems reasonable to assume that the stumps that leaked with drainage would have leaked without it, but the mortality rate would have been higher than that observed in cases with initial drainage. Initial drainage does insure prompt diagnosis, which is the only hope for successful management of this dreaded complication.

It must be remembered also that a Penrose drain aids in the diagnosis of a minimal duodenal leak by the simple fact that some bilious drainage will be present at the drain site even though the patient might be asymptomatic. This might be interpreted as an insignificant amount of drainage in which case it would tend to increase the relative incidence of reported stump leakage in those patients who had initial drainage. However, this might also be interpreted as an initial sign of a serious leakage which is being handled adequately by the Penrose drain. In either case, it would explain the improvement in mortality for those patients who had initial drainage.

DISCUSSION

Duodenal stump disruption is unquestionably one of the most dreaded immediate complications of gastric surgery. It may occur as early as the first post-operative day or as late as the 19th, as shown in figure 3. There are no forewarning signs. The patient may be having an uneventful convalescence when he suddenly develops severe abdominal pain (usually in the right upper quadrant), fever, tachycardia, and abdominal distention and rigidity despite a well functioning naso-gastric tube. Sometimes he may present a shock-like picture and rapidly develop jaundice due to the absorption of bile from the peritoneal cavity. Septicemia may ensue. Any post-operative Billroth II gastrectomy patient

who develops fever, tachycardia and abdominal pain requires immediate re-exploration and adequate drainage if he is to survive.

These findings correlate closely with those of Stengel, *et al.*,¹ who also found that patients drained at the time of the initial surgery had lower morbidity, seldom required re-operation and had a significantly reduced mortality rate if a duodenal stump perforation developed.

We do not advocate routine use of Penrose drainage of the duodenal stump, nor do we find a valid basis for believing that its use in any way promotes the development of stump leaks. We do, however, advocate the use of catheter duodenostomy in those cases in which the surgeon has any reservations or doubts about the adequacy of the cuff closure. In this series all stumps drained by this method healed without difficulties. Although the hospital stay was more prolonged with catheter duodenostomy than in the uncomplicated post-operative patient, it was never as long as that associated with Penrose drainage followed by perforation of the stump.

CONCLUSIONS

1. In this series the incidence of duodenal stump perforation and death is significantly higher following emergency operations.
2. A larger percentage of stump perforations occurred following Penrose drainage as compared with cases where no drainage was used. The explanations for this have been discussed.
3. Morbidity, mortality and the need for re-operation were significantly decreased when drainage was used at the time of the initial surgical procedure.
4. Use of the catheter duodenostomy, as described by Welch,² is advocated in those patients in whom the need for drainage is anticipated.
5. In the event of a duodenal stump leak, the need for prompt diagnosis and establishment of adequate drainage is obligatory. □

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Books As Clinical Tools

RENAL DISEASE: REVIEWING THE CLINICAL SIGNIFICANCE OF RECENT RESEARCH*

A RENEWED INTEREST in both acute and chronic renal disease has been occasioned by new developments in hemodialysis and homotransplantation. Progress in medicine portends an increasing importance in the understanding of renal function and disease mechanisms to the family physician, the internist, the surgeon and the immunologist.

Until recent years a clinically useful book on renal disease was not available. This void has been filled adequately since 1958 with the publication of at least four such volumes.

The books edited by Strauss and Welt¹ and D. A. K. Black² are particularly useful to the clinician seeking information on pathological physiology of direct use to him in patient care. Both books are of the multiple authorship type and each chapter is an expert treatise on a given aspect of renal disease. Although rather expensive, the book by Strauss and Welt is a true classic in the field and the clinician will find it invaluable in his study of a patient with renal disease or alterations in electrolyte balance. The book contains the most up-to-date material in all areas save the current status of renal homotransplantation, where experimental developments are altering clinical thought almost month to month.

The small volumes by deWardener³ and White⁴ are useful in certain disease states as ready clinical references. The chapter on polyuria in deWardener is perhaps the best one in the book. However, many of the chapters are over-simplified and the larger works cited above are recommended.

For physicians with particular interest in renal disease a new journal, *Nephrology*, has begun publication during the last year. This journal publishes highly technical articles, however, and for this reason it is probably not suitable for regular reading by the general physician.

It is important for the medical practitioner to familiarize himself with the technique of peritoneal dialysis. This type of hemodialy-

sis has largely replaced the "artificial kidney" for most purposes. It is particularly useful in acute renal failure and certain types of poisoning. Peritoneal dialysis is simple to perform, requires no complex equipment and is relatively safe. It can be carried out in any large or small hospital in Oklahoma. Although reference is made to this procedure in the books alluded to, an article by Maxwell and associates⁵ is perhaps the best source for detailed description. □

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ABSTRACT

NEEDLE BIOPSY OF LIVER IN INFANTS AND CHILDREN

The authors report on 40 biopsies of the liver in 36 patients. The Meghini needle was used. Among the advantages of this needle is the fact that less than one second is necessary for the biopsy compared to five-ten seconds with the Vim Silverman needle. Ages of the patients biopsied ranged from two months to 12 years. Two persons were necessary for the biopsy: an operator and a person to hold the chest in forced expiration. Adequate material was obtained in 39 out of 40 biopsy attempts.

Definitive diagnosis was made on the biopsy alone in four cases. The biopsy was helpful in establishing the diagnosis, implicating a disease process or evaluating the progression of disease in 24 biopsies in 21 patients. Five biopsies were not considered normal but were of questionable significance. Six showed a normal liver and in one there was an inadequate specimen. Biopsies were most helpful in chronic hepatomegaly without jaundice and were least helpful with prolonged obstructive jaundice or in the evaluation of portal hypertension for cirrhosis.

The authors note that in 1,600 biopsies in infants and children there was a mortality of 0.1%. Complications of the procedure include fractured ribs, pleural hemorrhage or effusion pneumothorax, transient pleurisy, bile peritonitis and occasional perforation of other viscera.

EDITOR'S NOTE: It appears that with skillful operators in selected cases, important information can be obtained by needle biopsy of the liver. This obviates the need for formal laparotomy in some cases.

Needle Biopsy of Liver in Infants and Children, Porter, M., Riley, H.D., Jr., Graham, H., *Journ. of Ped* 65: 176, Aug. 1964.

William O. Smith, M.D., Associate Professor of Medicine, University of Oklahoma Medical Center and Chief, Medical Service, Veterans Administration Hospital.
*One of a series on the practitioner's continuing self-education.

The Diagnosis of Pheochromocytoma

HENRY W. OVERBECK, M.D.

TWO CONTROVERSIAL aspects of the diagnosis of pheochromocytoma have appeared in the medical literature: first, the selection of patients for screening; and second, the proper screening tests to be employed.

Kvale, *et al.*¹ and others have stressed that screening every hypertensive patient for pheochromocytoma is impractical. However, the indications proposed by this same group for screening are so non-specific that few cases of unexplained sustained or labile diastolic hypertension would be excluded. These investigators suggest that the criteria for using screening tests in hypertensive patients should include one or more of the following: patients who 1) are thin; 2) are young (35 years or less); 3) have fluctuating blood pressure; 4) have a short history of hypertension (less than two years); 5) have a history of hypertension which has progressed from a mild to a severe form;

6) have hypertension which responds paradoxically to ganglionic blocking agents; 7) have a marked elevation of blood pressure during induction of anaesthesia; 8) display hypermetabolism without hyperthyroidism; 9) have Keith-Wagner retinopathy of groups two through four. In addition they advise testing the large group of patients with or without hypertension who have 10) "spells" associated with headache and/or perspiration, nervousness, tremor, thoracic or abdominal pain, or other vasomotor phenomena.

The screening tests fall into two categories: pharmacologic and chemical. With the fairly recent advent of chemical tests, certain authors^{3, 4, 5} have stated that use of pharmacologic tests for screening purposes is becoming academic. Other authors^{1, 2, 6} disagree, pointing out that pharmacologic tests are simple to perform and offer immediate results. Gifford, *et al.*, tested 72 patients who had proven pheochromocytoma. They reported a low incidence of false negative responses (approximately seven per cent). Most false positive phar-

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Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

macologic tests result from the prior use of sedatives, narcotics, tranquilizers, or anti-hypertensive drugs.

The use of the histamine test is recommended by many authors, if necessary precautions are taken. Occasionally a hypertensive crisis may be precipitated by the histamine test in the presence of pheochromocytoma. In addition, histamine provocation is commonly used to increase the chance of positive chemical tests in the presence of a pheochromocytoma.

Chemical tests for the presence of pheochromocytoma includes the determination of blood and urine free catecholamines and urine O-methylated catecholamine metabolites, metanephrine (M), normetanephrine (NM), and 3-methoxy 4-hydroxymandelic acid (VMA). Most authors believe that determination of free catecholamines is the most specific diagnostic test.⁷ However, in view of the difficulty of performing this determination and the existence of false negative and frequent false positive tests, most authors do not recommend determination of free catecholamines as a routine screening procedure. Nevertheless, this determination is of great value as a confirmatory test and may aid in the localization of the tumor.

Many authors currently recommend determination of urinary VMA excretion as the preferred routine screening procedure. Development of a simple, rapid colorimetric test for urinary VMA by Gitlow, *et al.*,⁷ places this determination within the capability of most clinical laboratories. Urine VMA remains elevated for at least 24 hours after a paroxysmal release of catecholamines from the tumor, and it is reported that VMA may be elevated even in the presence of normal free catecholamine levels.^{6, 8} However, false negative VMA determinations have been reported, especially if the hypertensive paroxysm occurred 24 hours prior to the urine collection.^{4, 9, 10} False positive VMA determinations re-

portedly occur following ingestion of bananas, coffee, tea, chocolate and/or vanilla.¹¹ Although not yet reported, it seems likely that administration of exogenous catecholamines in the form of nasal sprays, nebulizers, cough medicines, or release of endogenous catecholamines following excitement, stress, hyperinsulinism or by administration of reserpine or guanethidine would also cause false positive VMA determinations, (just as they cause false positive free catecholamine determinations).

Several groups have reported success with the determination of urinary M, NM, or total urinary metanephrines for screening.^{5, 9} If successful in the hands of others, new techniques such as this and that reported by Engleman and Sjoerdsma,¹² (testing for pressor responses to intravenous doses of tyramine), may eventually replace the tests in current use.

In conclusion, most cases of sustained and many cases of intermittent diastolic hypertension, where no other cause is found, should be screened for the presence of pheochromocytoma. No single test, pharmacologic or chemical, as yet commonly available and proven, offers complete reliability and specificity. Therefore, simple, widely available tests such as the histamine provocative test, the phentolamine (Regitine) test, and/or the urinary VMA determination should still be used for routine screening. If the screening test is high (presence of two or more of the criteria of Kvale *et al.*¹), the broad battery of diagnostic testing procedures discussed above should be employed.

□

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Postgraduate Course Set For Arrowhead Lodge

Physicians looking for an excuse to visit southeastern Oklahoma's luxurious new Arrowhead Lodge will be provided with an excellent opportunity to combine business with pleasure on September 19th when the OSMA's Council on Professional Education conducts an all-day scientific program at the Lake Eufaula facility.

"Clinical Considerations in the Allergies and Infectious Diseases" is the theme of the ten to five program. Holding a weekend scientific session at a state lodge represents a departure from the established pattern of the decentralized postgraduate education programming offered by the association for the past five years.

It has been the custom for the OSMA to hold eight regional meetings on weekday evenings, beginning

at 4:30 p.m. and concluding about 9:30 p.m.

During the 1965-66 organizational year, however, two meetings will be scheduled for state lodges on Sundays — one in September and one in April — and six of the usual mid-week meetings will also be held.

The meeting planners, Doctors S. N. Stone and Irwin H. Brown, both of Oklahoma City, believe the more comprehensive weekend meeting will not only round out a more complete postgraduate program for the year, but also hope that the selection of state lodge meeting sites will provide state physicians and their wives with a well-deserved chance for relaxation.

Scientific Program

The following program has been planned for the September 19th meeting at Arrowhead Lodge:

9:00 a.m. REGISTRATION — Coffee
Presiding: Rex E. Kenyon, M.D.

10:00 a.m. ALLERGIC EMERGEN-
CIES—Robert S. Ellis, M.D.

10:30 a.m. PRESENT DAY ROLE OF
THE SURGEON IN MANAGE-
MENT OF INFECTIONS — John A.
Schilling, M.D.

11:00 a.m. INFECTION IN RESPIR-
ATORY ALLERGY — Lyle W. Bur-
roughs, M.D.

11:30 a.m. OFFICE MANAGEMENT
OF EAR, NOSE AND THROAT
INFECTIONS — James B. Snow,
Jr., M.D.

12:00 Noon—Lunch
Presiding: S. N. Stone, M.D.

1:40 p.m. SOCIO - ECONOMIC IN-
FECTIONS—Rex E. Kenyon, M.D.,
President, Oklahoma State Medical
Association



Arrowhead Lodge

2:00 p.m. ALLERGIC REACTIONS TO ANTIBIOTICS—Lewis R. Bean, M.D.

2:30 p.m. INFECTIONS OF THE FEMALE REPRODUCTIVE SYSTEM — James A. Merrill, M.D.

3:00 p.m. BLOOD REACTIONS TO INFECTIONS — Richard A. Marshall, M.D.

3:30 p.m. GENITO - URINARY TRACT INFECTIONS — William L. Parry, M.D.

4:00 p.m. SOCIAL HOUR — With informal discussion of topics with the speakers

Registration fee for the course is \$12.50, which includes the scientific program and buffet luncheon.

The social hour will be sponsored by Massachusetts Mutual Life Insurance Company, underwriters for the Association's group term life insurance program.

Arrowhead Lodge

Beautiful, rustic Arrowhead Lodge is situated on the South shore of Lake Eufaula near Canadian, Oklahoma (U.S. Hwy. 69). The focal point of the 3,000-acre Arrowhead State Park, the lodge contains 106 units and features a split-level lounge complete with wood burning fireplace in the central lobby area. In addition to the main lodge, there are 104 duplex cottages, as well as delux cottages and "tree houses."

Complete recreational facilities are available at Arrowhead, including a nine-hole golf course, fishing, water sports, swimming pool and horseback trips to scenic, historic sites.

Reservations

OSMA members will receive special invitations to the scientific-recreational outing during the month of August. The registration form will provide for prepayment of the \$12.50 registration fee and for lodge accommodations. □

OSMA Program Projects Underway

Association president Rex E. Kenyon, M.D., Oklahoma City, has quickly inaugurated certain projects for the current organizational year as requested or approved by the House of Delegates. Association councils and committees have received their assignments, and work is already being conducted on many of the following projects:

- Statewide survey of the health economic situation in Oklahoma, to determine the scope and quality of health insurance protection now held by state citizens, and to develop improved methods to assure optimum effectiveness of the voluntary prepayment system.

- Continued liaison with the Department of Public Welfare; special emphasis to be placed upon the restoration of reasonable fees for professional services to indigent adults and to initiate payment for professional services to beneficiaries of the Crippled Children's Program.

- Study and formulation of recommendations regarding the health insurance demands of national employers who desire "paid-in-full" contracts and broader health benefits for their employees.

- Study of the impact of anticipated Medicare legislation and recommendations regarding any official reaction to the provisions and/or philosophy of the bill.

- Continued efforts to improve rapport with individual members of the Oklahoma Legislature; to establish effective liaison with key committees of the interim Legislative Council; and, to draft health and/or professional legislation in advance of the 1967 session of the Legislature.

- Planning and conduct at least one "Congressional Contact Tour" to Washington, D.C., and to coordinate national legislative efforts with the American Medical Association on a variety of bills having a significant bearing on public health or the profession.

- Development of an improved postgraduate education program for

members of the OSMA, and the planning of the 1966 annual meeting.

- Accelerated public relations programs to emanate from the OSMA.

- Planning and conduct of the annual County Medical Society Officers Conference.

- Plans to collect, preserve and display artifacts and historical documents related to the medical heritage of Oklahoma; and to re-design the official seal of the association.

- Improved relationships with recognized ancillary professional groups, and delineation of policies and objectives regarding pseudo-scientific healers and cultists.

- Open negotiations with the Office of Dependents' Medical Care concerning a contractual arrangement for the provision of professional services to military dependents.

- Re-write the OSMA Constitution and Bylaws in its entirety, in preparation for a special "Constitutional Convention" of the House of Delegates.

- Conduct "Speech Training Seminar" for representatives of all county medical societies and county auxiliaries.

- Initiate statewide educational program on routine testing for phenylketonuria, per legislation approved during the 1965 session of the Oklahoma Legislature.

- Surveil and improve the association's professional liability, disability income, overhead expense, and term life insurance programs.

- Assist the Oklahoma Medical Political Action Committee by direct billing of all OSMA members for the voluntary payment of AMPAC dues.

In addition to special projects initiated by action of the House of Delegates, the association's officers, committees and full-time staff personnel have myriad activities to sustain of a continuing nature, such as the publication of the monthly *OSMA Journal*, the preparation of the 1966-67 *Membership Directory*, preparation of folders and brochures for public and professional distribution, maintenance of the OSMA Scholarship and Loan Program, and a variety of duties involving the representation of the

profession to other groups and to the public.

President Kenyon also plans to spend a great deal of time with county medical societies during his term of office, for the purposes of acquainting state physicians with short and long-range problems confronting the profession, and appealing for even greater organizational unity.

Delegates to Meet

A dual-purpose House of Delegates meeting is anticipated for the month of September, according to President Kenyon. First, a constitutional convention must be held to consider and act upon the revised Constitution and Bylaws which is now being prepared by association committees. The second problem of immediate importance is the question of non-participation in the Medicare Program, and the association's policy-making body is obligated to reconsider its position on this problem as soon as Medicare legislation becomes law and Federal regulations are available.

Tentatively, Doctor Kenyon hopes to combine the two agenda subjects into a single, day-long session of the House of Delegates. □

Aesculapian Awards Announced

Gordon H. Deckert, M.D., and Richard Marshall, M.D., were their students' choice for the Aesculapian Awards for devotion to teaching given annually by the Student Council at the University of Oklahoma Medical Center.

Doctor Deckert, who received the pre-clinical award, is an assistant professor of psychiatry and VA clinical investigator. Doctor Marshall, the clinical faculty winner, is an assistant professor of internal medicine and of preventive medicine. James F. Todd, Student Council president, made the presentations. □

State Legislature Causes Concern

Among 82 legislative proposals reviewed by the State Legislative Committee of the OSMA during the 1965 session, major interest was focused on 21 bills thought to have particular significance to public health or to the profession. Legislation involving child abuse, phenylketonuria, contact lenses, psychology, the Board of Unexplained Deaths, and revisions in the Medical Practice Act commanded the primary attention of the association staff and committee members.

According to Tom C. Points, M.D., Oklahoma City, Chairman of the OSMA State Legislative Committee, much work needs to be done to improve liaison between physicians and their individual representatives and senators if the profession is to realize its maximum effectiveness at the State Capitol.

"The legislative committee and the OSMA staff people can only do so much in representing the profession," Points said. "On practically every bill we encounter well-organized pressure from other groups, which can only be offset by the entire medical profession making itself heard across the state. Most lawmakers are much more inclined to listen to the folks back home than to a central lobby in Oklahoma City."

The problem of improved rapport with the Oklahoma Legislature will become a major project of the new State Legislative Committee, headed by Raymond F. Hain, M.D., Oklahoma City.

"During the legislature's 'off season,' we not only plan to do some political fence-mending, but to also grab the initiative by drafting some legislation of our own," Hain said. "We are all tired of being on the defensive in legislative matters involving the public health, and we hope to draft some good health legislation and process it through the interim Legislative Council in preparation for the 1967 legislative session."

Toward this objective, OSMA staff

personnel are now compiling reference files on pseudo-professional groups such as optometry and chiropractic "to be better prepared to correct some of the mythology which prevails concerning their educational backgrounds and professional competence."

Doctors Points and Hain agree that the association is in danger of over-emphasizing federal legislation at the expense of local issues which can be just as deleterious to the practice of medicine. "Our position at the state level is much stronger than it is in Washington," Points said, "but there is still vast room for improvement."

Here are brief summaries of several legislative bills of concern to the State Legislative Committee during the 1965 session. Interested physicians may order copies of the legislation by writing to the OSMA, P.O. Box 18696, Oklahoma City.

Child Abuse Law

With the passage of Senate Bill 18 on March 17th, physicians, dentists, residents, interns and registered nurses are now required to report abuse or neglect of a child under the age of seventeen. When any of the listed persons have reason to believe that a child under their treatment, examination or care has had serious injury or injuries inflicted upon him or her as a result of abuse or neglect, said person shall report the matter promptly to his local police, county sheriff, county attorney, or to a public welfare official.

Physicians as well as any of the other persons participating in the making of the report shall have immunity from any liability, civil or criminal, that might otherwise be incurred or imposed.

Originally, the OSMA State Legislative Committee caused to be introduced a similar bill which would have made child abuse reporting discretionary. Upon advice from the OSMA Legal Counsel, the OSMA State Legislative Committee later supported Senate Bill 18, which makes

(Continued on Page 347)

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william r. garretson, m. a.

reporting of child abuse cases mandatory.

Testing for Phenylketonuria

As a result of the passage of Senate Bill 87, the State Board of Health is charged with instituting an educational program aimed at promoting the routine testing of all newborn in an effort to detect phenylketonuria and other metabolic disorders which may later lead to mental retardation. The educational approach will be directed at hospitals, physicians and the general public.

If for any reason, the educational approach does not produce standard routine testing in a reasonable period of time, the State Board of Health is empowered to establish regulations which would make testing of newborn mandatory.

Senate Bill 87 in its original form called for routine testing of newborn by the physician as a matter of public policy. The OSMA State Legislative Committee opposed and was successful in getting this provision stricken from the bill.

Contact Lenses

In the late days of the legislative session, Oklahoma optometrists attempted to slip a bill through which would have greatly handicapped ophthalmologists in the area of prescribing and fitting contact lenses.

The proposed legislation, Senate Bill 421, in essence prohibited dispensing opticians from fitting contact lenses onto the cornea of the eye. Oklahoma ophthalmologists contended it would force them out of the contact lens field because they use and rely on the dispensing optician for this and other mechanical procedures just as other physicians rely on nurses, laboratory technicians and others to carry out functions under their supervision.

The Oklahoma State Medical Association, after losing the battle in the Senate, was successful in its efforts to kill the bill in the House of Representatives.

While a similar proposal can be expected to pop up in the next session, a strong counter proposal can likewise be expected which would establish a registration law for dispensing opticians, thus creating standards and placing the regulatory supervision of opticians under the control of the State Board of Medical Examiners.

Psychologist Practice Act

The 30th Oklahoma Legislature passed and Governor Bellmon signed into law a bill establishing a psychologist practice act. With the passage of House Bill 939, no person may represent himself to be a psychologist or engage in the practice of psychology unless he is licensed under its provisions.

The new law further creates a State Board of Examiners of Psychologists whose responsibility is to perform examinations and to restrict licensing to persons fulfilling educational and other requirements found in the law.

In the law, the practice of psychology is described as meaning the application of established principles of learning, motivation, perception, thinking, and emotional relationships to problems of personnel evaluation, group relations and behavior adjustment. The application of these principles includes, but is not restricted to, counseling with persons or groups with adjustment problems in the areas of work, family, school, and personal relationships; measuring and testing of personality, intelligence, aptitudes, emotions, public opinion, attitudes and skills; and doing research on problems relating to human behavior.

The OSMA opposed House Bill 939 because it permits and encourages psychologists to counsel mentally ill patients without any provision, whatsoever, for medical supervision. Thus, the OSMA believed the bill not to be in the best interest where qualified care of the patient is concerned.

Board of Unexplained Deaths

The OSMA State Legislative Committee assisted the Board of Unex-

plained Deaths in passing House Bill 663—a bill which gives the medical examiners \$150,000 with which to operate for the next biennium.

During the last legislative session, the OSMA was primarily responsible for securing the Board's first biennial appropriation, which amounted to \$84,000.

In addition to making more funds available for paying of expenses incurred by county medical examiners and for the performance of autopsies, passage of the bill makes possible the future hiring of a full-time State Medical Examiner and the establishment of a permanent central office.

Medical Assistants

The OSMA State Legislative Committee, on advice from its legal counsel, caused to be introduced Senate Bill 255—which has been signed into law.

SB 255 is an amendment to the Medical Practice Act which takes the services rendered by a physician's office assistant or office girl out of the category of unauthorized practice of medicine.

In some cases where the physician utilizes his office assistant to assist him in treating patients, such action could have been interpreted as being unauthorized practice of medicine. The newly amended version tacitly approves the delegation by the doctor of ordinary treatment to his office assistant or office girl—with the understanding that the doctor is still fully responsible for the care even though minor treatment assistance is delegated.

Board of Medical Examiners

As a result of passage of Resolution No. 16 by the OSMA House of Delegates in May of 1964, the OSMA Legislative Committee supported House Bill 694. HB 694 amends the Medical Practice Act by placing the board members on a staggered tenure of service.

Their appointments to staggered terms will result in continuity of experience on the Board.

HB 694 has been signed into law

Other Legislation

In addition to the bills reviewed above, the following 16 Senate and 19 House bills are listed and the corresponding action (Passed or Died) is cited:

SB 12 — Eliminating exclusion of chronic alcoholism from definition of mentally ill person—Passed.

SB 15—Requiring passenger motor vehicles beginning with 1966 models be equipped with safety belts or harness—Passed.

SB 19—Chemical tests for drivers of motor vehicles believed under influence of intoxicating liquor—Died.

SB 21—Providing judge of county court may perform duties of coroner—Died.

SB 120—Authorizing Department of Public Health to enforce air pollution laws—Died.

SB 121—Specifying age limits for child molestation penalty—Passed.

SB 143—Defining "physical therapy", authorizing committee; providing for licenses and regulation—Passed.

SB 204—Requiring copy of examination by practitioners of healing arts be furnished person examined upon request—Passed.

SB 205—Authorizing State Board of Medical Examiners to register without examinations certain foreign trained doctors—Passed.

SB 220—Providing State Board of Cosmetology shall regulate practice of electrology—Died.

SB 253—Permitting injured workers to select their own doctors under certain circumstances—Died.

SB 297—An act relating to social workers; requiring registration; creating Board of Registration—Passed.

SB 318—Providing in certain counties any duly licensed, qualified medical doctor be admitted to medical staff of county hospital—Died.

SB 356—Clarifying required coverage provisions in policies providing for medical benefit—Died.

SB 402—Prohibiting exclusion of optometrists from certain insurance policies, medical and hospital service plans and public programs—Passed /Governor vetoed.

SB 473—An act relating to practice of dispensing opticians; defining opticians—Died.

HB 502—Authorizing pre-and after-care services in mental health department—Passed.

HB 509—Providing for care and treatment of sexually dangerous persons—Died.

HB 516—Creating State Hospital Planning Advisory Council—Passed.

HB 574—Limiting liability for negligence of nurses, as well as others, for emergency care at accident scene—Passed.

HB 650—Providing for regulation of non-profit medical or hospital insurance—Died.

HB 663—Biennial appropriation, of \$50,000 annually to State Department of Health—Passed.

HB 667—Providing for labeling of accident and health insurance policies—Died.

HB 685—Permitting injured workers to select their own doctor—Died.

HB 692—Increasing fees charged by State Board of Medical Examiners—Passed.

HB 693—Providing for certain qualifications for admission to practice medicine—Passed.

HB 719—Authorizing voluntary admission to state and private mental hospitals of persons 18 to 21 years old—Passed.

HB 898—An act relating to county medical examiners; setting out various powers and provisions of operations—Passed.

HB 967—Including drug addiction within term mentally ill person as used in mental health law—Passed.

HB 969—Making drug prescriptions authorized by licensed physicians, dentists or veterinarians void after six months—Died.

HB 1000—Authorizing superintendents of state mental hospitals to re-

lease former patient case records to certain persons—Passed.

HB 1001—Providing for licensing of pharmacies and conditions for issuance; providing fees—Passed/Governor vetoed.

HB 1032—Appropriating \$7,000,000 for land and buildings for University of Oklahoma Medical Center—Passed.

HB 1042—Requiring receipt for delivery of narcotic drugs; providing form of receipt—Died.

HB 1055—Removing certain restrictions on fitting or supplying frames and lenses of eye glasses—Died.

Johnson Comes To OU Medical Center

Bruce Connor Johnson, Ph.D., professor of biochemistry at the University of Illinois, Urbana, has been appointed professor and chairman of the Department of Biochemistry at the University of Oklahoma Medical Center.

He will also head the Biochemistry Section of the Oklahoma Medical Research Institute. Both appointments are effective August 1st.

Johnson received his bachelor's and master's degrees from McMaster University, Ontario, Canada, and his Ph.D. at the University of Wisconsin in 1940. He has been on the Illinois faculty since 1940, achieving the rank of full professor in 1955.

His major contributions have been in the field of nutrition and one of his primary research interests is enzyme chemistry.

Mark R. Everett, Ph.D., dean emeritus, was biochemistry chairman until his retirement last summer. Interim chairman has been H. Neil Kirkman, M.D., who recently left the Medical Center to join the University of North Carolina School of Medicine faculty, Chapel Hill.

Paul McCay, Ph.D., has been acting head of the OMRI Biochemistry Section during the two years since Ranwell Caputto, Ph.D., resigned to return to his native Argentina. □

Twelve Fellowships In Psychiatry Announced

The Postgraduate Division of the University of Oklahoma Medical Center has announced details for twelve fellowships in psychiatry for the practicing physicians to be awarded in August.

Any qualified physician in Oklahoma is eligible to apply. Deadline for submitting applications is August 1st, 1965. Appointments will be made by August 7th. Those appointed will be enrolled for the entire course without fees or charges.

The courses will be comprised of 33 sessions to be held from September 16th, 1965 through May 19th, 1966 on Thursdays from 1:30 p.m. to 8:30 p.m., excluding holidays.

Goals

The fellowships are designed to create: More efficient and comprehensive management of *all* patients; More effective employment of psychotropic drugs; Earlier diagnosis and treatment of psychiatric and psychosomatic problems; Better local treatment for former mental patients and; More local medical leadership of community mental health programs.

Included in the courses will be a review of basic psychiatry and psychosomatic medicine; seminars on practical aspects of patient care; and supervised experience with typical cases selected for their applicability to the practice of the individual fellow.

A typical day for the sessions will include:

- 1:30 p.m. Basic psychiatry seminar
- 3:00 p.m. Individually assigned clinical case
- 4:00 p.m. Case supervision
- 5:00 p.m. Seminars on assigned readings
- 6:00-8:30 p.m. Dinner meeting and group supervision of patients being seen by the fellows in their own practices. □

Vansant Honored for Fifty Years Service



James P. Vansant, M.D., Dewey, is shown receiving an OSMA 50-Year Pin from Kieffer Davis, M.D., Bartlesville, President of the Washington-Nowata County Medical Society. In addition to the OSMA award received on May 27th, Doctor Vansant was honored by his county medical society on May 1st when a special plaque was presented to him by Doctor Davis. Tribute was paid to the 76-year-old general practitioner "In grateful recognition and humble admiration for a half-century of devotion to the welfare of his fellow man."

High School Students Visit Medical Center

Approximately 1,400 persons, most of them high school students, were taken on conducted tours of the University of Oklahoma Medical Center during the past academic year.

The annual High School Health Career Clubs Rally Day in October drew the greatest number, some 800 from 40 state high schools. This is the program sponsored by the Oklahoma State Medical Association Auxiliary, Oklahoma Hospital Auxiliaries, Oklahoma League for Nursing, Oklahoma State Nurses Association and Oklahoma Student Nurses Association.

But the big influx of individual classes and clubs was in the spring. □

Tour programs to explain opportunities in the health sciences were arranged for science students and health career clubs from Newcastle, Altus, Weatherford, Tulsa Edison High School, Millwood, Shawnee and Oklahoma City's Northwest and Classen High Schools, and others.

Science students from the Oklahoma College for Women and pre-medical students from Oklahoma State University and the University of Oklahoma received guided tours.

Notable among the non-student groups who got a close-up of the Medical Center were some 80 Lawton businessmen who took part in a Heart Research Day planned by the Oklahoma Heart Association for the Lawton Chamber of Commerce. □

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AMA Defers Action on Non-Participation

The biggest AMA meeting in history, held June 20th-24th in New York City, attracted 24,268 physicians.

Highlighting the proceedings of the 114th session of the American Medical Association's House of Delegates was the controversial subject of "non-participation" in the Federal government's Medicare program.

The subject came up in various ways in nine resolutions submitted to the Delegates and in the inaugural address of James Z. Appel, M.D., AMA president.

A running debate on the issue which overshadowed all other activities ended, at least temporarily, when the House of Delegates adopted a substitute resolution which declared that "the physicians of the United States of America pledge themselves to continue their search and activity, in whatever social environment may develop, to secure or to restore the freedom, high quality and availability of medical care which has been traditional in our country."

The resolution concluded: "When the fate of the pending Medicare legislation is determined, this House will review, in special session if necessary, the effect of the law and take whatever action is deemed necessary."

Thus, the House of Delegates put off a final decision on the problem until such time as the Medicare Bill becomes law, an action similar to the one taken by the Oklahoma State Medical Association's House of Delegates in May.

In passing the substitute resolution, certain addendums were added on the floor of the House by Delegates who were not satisfied with the brevity of the statement, as follows:

"In keeping with the testimony before your Committee, and the expressed policies of this House, this action should in *no way* be interpreted as a change in Section 6 of the Principles of Ethics of the Ameri-

can Medical Association which plainly states: 'A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and compete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care,' and that this House of Delegates reaffirm the principles of the Bauer amendment adopted in 1961.

"The House of Delegates reaffirm the nine principles for standards of health care programs as adopted by the House of Delegates in its special meeting February 7th, 1965, and amended to read as follows:

'(1) No person needing health care shall be denied care because of the inability to pay for it.

'(2) It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.

'(3) Every level of government, municipal, county, state and federal, should assume a responsible share in the financing of such programs.

'(4) The health care provided by such programs should be adequate and should be equal to that available to those who can afford to pay.

'(5) Maximum use should be made of voluntary prepayment and insurance mechanisms.

'(6) Administration of such program should be the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.

'(7) Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.

'(8) Any such health care programs should provide funds only, and not direct services.

'(9) Funds for such programs may come from general tax revenues and

not from social security taxes.' "

Appel's Statement

Doctor Appel's inaugural address caused considerable concern among many of the non-participation advocates. The Lancaster, Pennsylvania physician said that if the omnibus Medicare Bill is passed by Congress, the medical profession must do all it can to develop the good points and eliminate the bad points of the law. He declared that, regardless of personal opinion, "we do not have the right—either as physicians or citizens—to violate a law or to violate the spirit of the law or its intent."

Offer to President Johnson

In a related action, urging that government seek the advice of the medical profession on health legislation, the House adopted a resolution which included the following statements:

"This House of Delegates restate its offer to meet with the President of the United States through our Legislative Task Force to discuss proposed medical care legislation with a view to safeguarding the continued provision of the highest quality and availability of medical care to the people of the United States.

"The House of Delegates of the American Medical Association instruct the Board of Trustees of the American Medical Association to embark immediately on an active campaign to inform the membership of the American Medical Association of the grave considerations in adhering to our principles of ethics posed by legislation now pending before Congress.

"The American Medical Association strongly urge those branches of the government interested in the formulation, the enactment, and the implementation of laws which deal with the provision of professional medical services to the public to seek and utilize the advice and assistance of the physicians who will render such services. Such advice and assistance

should be received through our chosen representatives, the officers of the American Medical Association.

"The American Medical Association intensify its efforts to modify all such pertinent legislation, employing the necessary means and appropriate actions to the end that the health of the public and the pursuit of excellence in medicine be unimpaired by such legislation.

"The American Medical Association make every effort to continue, and where necessary, to expand its communication activities so that all physicians as members of component medical societies will be promptly, continuously and completely informed of developments in this critical area during the coming months."

Debakey Commission Report

In considering seven resolutions involving the report and recommenda-

tions of the President's Commission on Heart Disease, Cancer and Stroke, the House adopted a substitute statement which resolved that:

"The American Medical Association point with pride to the immense strides made in the approaches to the conquest of heart disease, cancer, and stroke under existing patterns of research and medical practice; strongly favoring the use of available financial support for extension of these patterns rather than replacement by a complex of medical controlled centers and satellites.

"The American Medical Association oppose those particular Commission recommendations which call for and have stimulated proposals for hastily contrived and unproven sweeping changes in the pattern of medical research, education, and patient care.

"The component state medical associations be urged to conduct con-

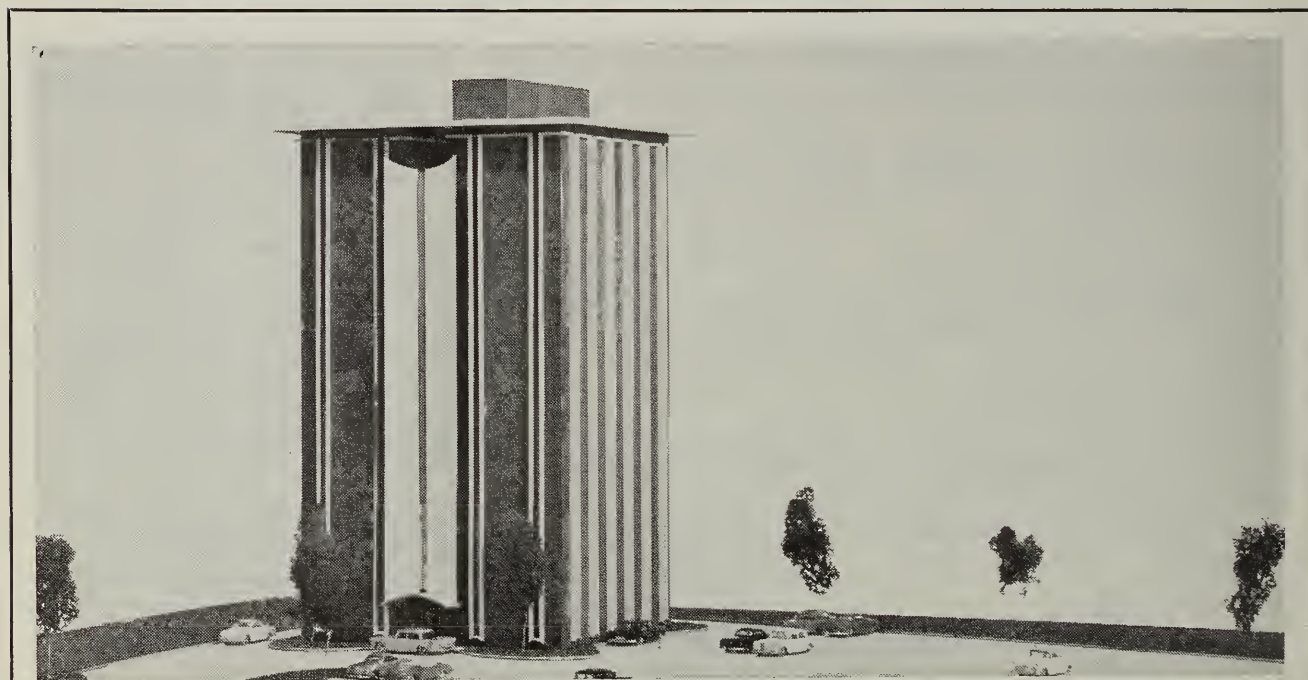
ferences with medical educators and scientists, medical staffs of hospitals, medical society representatives, and other interested parties, for the purpose of exchanging information and for the development of such recommendations as may be appropriate for the continued improvement of medical education, research and patient care.

"The state medical associations be urged to report findings and recommendations resulting from these conferences to the AMA Board of Trustees, for the information of the Board, its councils, and the Association members."

Miscellaneous Actions

In dealing with 73 resolutions and numerous reports from councils, committees and the Board of Trustees, the House of Delegates also:

- Urged medical schools and agencies concerned with continuing education to incorporate "appropriate



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learning experiences" for physicians in counseling relating to sexual attitudes and behavior.

- Referred to the Board of Trustees a resolution calling for the AMA to caution the public against discontinuing voluntary health insurance policies and prepayment plans for persons over 65 in "anticipation of pending legislation."

- Reaffirmed its policy concerning the practice of radiology, pathology, and anesthesiology and physical medicine in hospitals.

- Reaffirmed AMA policy that human blood, as living tissue, should not be purchased under insurance contracts. It was recognized that exceptions may be necessary when there is need for unusually large numbers of transfusions, or whenever volunteer blood donors are not available.

- Adopted a resolution calling for continued efforts to secure the passage of legislation "which will remove tax discrimination against professional people, specifically HR 10 (Keogh) and HR 697 (Weltner), but turned down recommendations that the AMA encourage its members to proceed at the state and county levels with the formation of corporations for the purpose of implementing an organized effort in the courts to remove tax discrimination."

- Directed the Board to study the opportunities and problems associated with Operation Head Start and other programs now operating or planned under the Economic Opportunity Act.

- Referred to the Board for study a resolution calling for "a program of purchase of health insurance . . . in every state, subsidy for which shall be by federal-state participation, under which extension of coverage shall be to all needy persons regardless of age."

- Received a series of resolutions urging approval of an American Board of Family Practice. All were referred to the Council on Medical Education.

- Encouraged state and county medical societies to participate in the formation of State Associations of the

Professions, "to provide a vehicle, for interprofessional cooperation in those areas where united activity of the various professions can be of great benefit."

- Amended the bylaws to provide that the vice-president shall succeed to the presidency should the president die, resign or be removed from office.

- Accepted a Board of Trustees report stating that it had referred to the joint AMA-American Bar Association committee a previously introduced resolution designed to present a grievance against alleged abuse of legal processes, characterized in the resolution as "vexatious litigation."

- Adopted a statement that "when government assumes financial responsibility for an individual's health care, reimbursement for professional services should be on the same basis as in the case of other indispensable elements of health care. Therefore, reimbursement for the services of physicians participating in government supported programs should be on the basis of usual and customary fees."

- Reaffirmed opposition to permitting interns and residents to collect fees for professional services under the Blue Shield plan, stating that "the care of medical-surgical insurance subscribers by interns and residents and by paid hospital staff members constitutes a most serious threat to the private practice of medicine."

- Refused to set up a national accreditation program for health insurance plans.

Officers

The House of Delegates elected Charles L. Hudson, M.D., Cleveland, Ohio, as president-elect. He will take office in June, 1966.

Doctor Hudson's unexpired term on AMA's Board of Trustees will be filled by Doctor Irvin E. Hendryson, Denver, Colorado. Doctor Hendryson will serve until 1967.

Re-elected to the Board for three-year terms were: Doctors Lester D. Bibler, Indianapolis; J. B. Copeland,

Austin, Texas; Gerald D. Dorman, New York; L. O. Simenstad, Osceola, Wisconsin.

W. Andrew Bunten, M.D., Cheyenne, Wyoming, was elected to a one-year term as the Association's vice-president.

Doctor Milford O. Rouse of Dallas, Texas, was re-elected Speaker of the House of Delegates, and Doctor Walter C. Bornemeier of Chicago was re-elected Vice-Speaker.

Elected to the Council on Medical Education were Doctor Bland W. Cannon of Memphis, Tennessee, Doctor William R. Willard of Lexington, Kentucky (to succeed himself) and Doctor Earle M. Chapman of Boston.

Named to the Council on Medical Service were Doctor C. A. Hoffman of Huntington, West Virginia, and Doctor Russell B. Roth of Erie, Pennsylvania, who was re-elected unanimously. Doctor George D. Johnson of Spartanburg, South Carolina, member of the Council on Constitution and Bylaws, was also re-elected.

Doctor James H. Berge of Seattle, Washington, was named to succeed himself on the Judicial Council □

Civil Rights Applied To Health Care Programs

Oklahoma's Department of Public Welfare, administrative agency for state and federal health care programs for indigents, has received notice from the Department of Health, Education and Welfare, Washington, D.C., that payments to providers of health care cannot be made if there is evidence of racial discrimination.

Under Title VI, Section 601 of Public Law 88-352, the Civil Rights Act of 1964, it is provided that: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Mr. Lloyd E. Rader, Director of Public Welfare in Oklahoma, has assured Federal officials that there is no evidence of discrimination involving the health care industry of the state. □

BOOK REVIEWS

THE FALLACY OF FREUD AND PSYCHOANALYSIS. By Edward R. Pinckney, M.D., Adjunct Attending Physician, Cedars of Lebanon Hospital, Los Angeles, and Cathey Pinckney. First edition. 192 pp. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965. \$4.95.

"All I hope to do," writes Doctor Pinckney, "is to burst the bubble of belief in psychoanalysis, and, by so doing, reverse the tide that has saturated our culture and permeated our everyday activities. To me, psychoanalysis is a hoax — the biggest hoax ever played on humanity." Dr. Pinckney admits that his book is an opinion yet his opinions are supported with extensive documentation and the writing is simple, logical and scientific. "Sufficient proof is now available," says Doctor Pinckney, "to show that psychoanalysis has, in practice, failed to live up to its expectations and has muddled the medical profession with mysticism and jargon." He offers abundant evidence that many kinds of psychoses and neuroses are caused by genetic or physiological factors and not solely by sexual maladjustments as psychoanalysts claim. Doctor Pinckney also shows the real difference between scientific psychiatry and psychoanalysis and calls for the removal of psychoanalysis from the protection of modern medical practice. In such chapters as "The Freudian Persuasions," "The View Beyond the Couch," "The Disturbed Mind," "The Bodily Basis," and "Science vs. Psychoanalysis," Doctor Pinckney puts forth the case against psychoanalysis in frank and at times shocking terms.

"The Fallacy of Freud and Psychoanalysis" offers alternatives and Doctor Pinckney challenges psychoanalysts to refute him "with valid medical and scientific data rather than invective and jargon." □

PHYSIOLOGY OF THE EYE. By Frances Heed Adler, M.D., Emeritus Professor of Ophthalmology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. Fourth Edition, cloth, 889 pp., with 437 illustrations. St. Louis: The C. V. Mosby Co., 1965. \$18.75.

To review such a knowledgeable treatise adequately, and then to present this material succinctly in abstract form, is tantamount to analyzing the Old Testament critically in a single paragraph!

As Doctor Adler infers in the preface to the Fourth Edition of his now long famous works, that new editions are always necessary to keep pace with the ever-changing, exciting science of physiology. Previously unexplored, untried tangents have presented new and beguiling vistas for research.

The clinical application of basic ocular physiology prevails throughout the text. From the opening discussion of functional anatomy of the eyelids to the basic studies of retinal cellular metabolism, this purpose of clinical applicability prevails.

For the purpose of review only the more current additions and revisions will be mentioned, with attempted judicious selection. In general though, the scope and extent of revision in the current Fourth Edition is not as extensive as in the Third Edition (1959). There have been some organizational changes and many fine new illustrations added. The double column printing style enables the reader to "scan" more effectively.

Recent studies on corneal metabolism kindled by increased clinical interest in corneal transplantation have been added to the section on "the cornea." The pathophysiology of corneal hydration has been amplified through recent electron microscopic and biochemical (mucopolysaccharide) studies. Corneal permeability studies, utilizing C¹⁴ labelled atropine have direct clinical application; comparing topical and subconjunctival routes. Other work investigating directional movements of sub-

stances through the corneal stroma do not confirm previous experiments indicating a directional outflow due to intraocular pressure.

The physical properties, chemical composition, and secretory mechanisms of the aqueous humor, continue to offer diverse fields of investigation. Recent work has raised doubts in regard to previous demonstration of the hypertonicity of aqueous in relation to the current fluid, plasma (and thus related implications to aqueous "secretion"). Kass and Green have demonstrated that actually the posterior chamber aqueous is isotonic with plasma, and the previously demonstrated hypertonicity of anterior chamber aqueous may be due to evaporation.

The role of mucopolysaccharides in the trabecular structures as a determinate of facility of aqueous outflow has stimulated further studies. Barany has demonstrated that perfusion with hyaluronidase increases the facility of outflow by approximately 50 per cent. The practical implications in understanding the basic pathophysiology of glaucoma is apparent.

The electron microscope and newer biochemical assay techniques have furthered our understanding of cellular metabolism at a fantastic rate. The role of Muller's cells and fibers in storage of glycogen and glycolytic enzymes has been emphasized recently. These basic metabolic studies concerning glycolysis, oxygen deprivation, etc., have exciting potential applicability in our new era of space medicine. We are also progressing in our understanding of many retinal disease processes (pigmentary degeneration, abiotrophies, nyctalopia, etc.) through these advances in the study of retinal metabolism.

As all authors realize, much of their work is outdated by the time of compilation and publication, and thus immediately become a relic of anachronism. Thus the necessity for constant revision and addition becomes apparent. This has been aptly accomplished by Doctor Adler in his Fourth Edition of "Physiology of the Eye."—Thomas E. Acers, M.D. □

Letter to the Editor

June 10, 1965

Dear Sir:

On April 7, at noon, 30 physicians of a newly organized Physicians for Automotive Safety made a "dignified protest" before the 1965 International Automobile Show at the New York Coliseum. Fourteen specific objections to current automobile design were indicated on the placards which the physicians carried. Since the protest, the response from the public and our fellow physicians reflects sentiment that our action was long overdue. Despite past intensive programs directed at control of the environment (the highway) and the host (man), little attention has been directed towards preventive countermeasures for the specific agent (the automobile). Defective automobile design is responsible for much of the epidemic injury, disfigurements, and disabilities.

All the previous resolutions of the American Medical Association and the American College of Surgeons asking that the industry make a safer car have been almost completely ignored. There will be no conflict with the regular medical organization activities on automotive safety, and the Physicians for Auto-

motive Safety will cooperate to reinforce the mutual objective.

The Physicians for Automotive Safety, as a smaller and more flexible organization, will direct programs specifically to effecting occupant protection in motor vehicles. Physicians for Automotive Safety represents an attempt at organization of the practicing medical profession to cope with a known mechanical epidemiologic agent. The nature of the present epidemic clearly justifies this approach.

Membership inquiries and suggestions for future action should be directed to Doctor Arnold Constad, Secretary-Treasurer, 527 Morris Avenue, Springfield, New Jersey. Basic membership fee is \$5., contributing membership \$15, sustaining membership \$25 per year. Hopefully, physicians from every section of the country will join to give meaningful influence for this new medical group.

Sincerely yours,
SEYMOUR CHARLES, M.D.
President
Newark, New Jersey
LEO MAYER, M.D.
Vice-President
New York, New York

DEATH

HUGH PERRY, M.D.
1902-1965

Tulsa surgeon, Hugh Perry, M.D., died June 28th, 1965.

A native of Greenwood, Arkansas, the 62-year-old physician graduated from the University of Oklahoma School of Medicine in 1926. He moved to Tulsa in 1930 following private practice in Brooklyn, New York.

A past-president of the Tulsa County Medical Society, Doctor Perry was a Fellow of both the American College of Surgeons and the International College of Surgeons, a member of the Southwest Surgical Congress and the Phi Beta Pi. □

Prescription Drug Prices Decline

Prescription drugs are among the few commodities that have actually declined in wholesale prices during recent years. Since 1949 the wholesale prices of specialty prescription drugs declined 13.8 per cent, while the wholesale prices for all commodities measured by the U.S. Bureau of Labor Statistics rose 26 per cent. □

Miscellaneous Advertisements

MISSIONARY-PHYSICIAN is badly needed for new hospital to be opened in February, 1966 on Little Diomed Island off the west coast of Alaska. Anyone interested may secure further information by contacting A. C. Hirshfield, M.D., 908 N.W. 50th, Oklahoma City.

DESIRABLE office space. 554 square feet. Write Medical-Dental Building Corporation, 1219 Classen Drive, Oklahoma City, Oklahoma 73103.

AVAILABLE August 1st, clinic practice in Drumright, Oklahoma. City of 4,000—surrounding area 10,000. New 25-bed hospital and 50-bed nursing home. Contact Bill Fowler, 153 East Broadway, Drumright, Oklahoma. FL 2-2545 or FL 2-2238.

WANTED: Internist, board eligible or certified to be associated with twelve-man specialty group. salary open, no investment, early partnership, city of 35,000. Write J. D. Wilson, M.D., King's Daughters Clinic, Temple, Texas.

EXCELLENT opportunity to combine private practice with eight hour, five-day week emergency room coverage in modern, exceptionally well-equipped general type hospital. For further information contact Administrator of Hillcrest Medical Center, Tulsa, Oklahoma.

FOR RENT: 1,000 square feet of office space to rent September 1st in Medical Center area, Oklahoma City. Also 100 Milliamp General Electric X-ray machine with all attachments. 511 N.W. 11th. CE 6-8401

Miscellaneous Advertisements

Continued

FOR SALE, 1963, red super-sports Chevrolet Impala. Bucket seats, air-conditioned. Owned by the late Peter E. Russo, M.D. Call Greenfield 8-0820.

ENERGETIC GP for associate in Northeastern Oklahoma Clinic. New hospital available, operated by Baptist General Convention. Contact W. A. Cotner, M.D., Grove Clinic, Grove, Oklahoma.

THE CHICKASHA CLINIC has an immediate opening for a board certified or qualified internist. This is an excellent opportunity for a young man as it leads to an associateship in the medical practice of the clinic with no investment. Interested persons should contact Jim Loy, clinic administrator, or Bill McDoniel, M.D., Chief of the clinic staff. Phone CA 4-4853.

FOR SALE complete equipment for establishing a medical practice, all in excellent condition, including cabinets, sterilizers, autoclave, examining tables, desks, chairs, waste and scales for two rooms. Also Diathermy Metabolor, Burdick EKG, Thermo-fax and laboratory equipment. This equipment will have to be seen to appreciate. J. Hoyle Carlock, M.D., Gilbert Building, Ardmore, Oklahoma.

WANT your office away from traffic and noise? Tired of driving a great distance to make your hospital visits? Wishing your patients didn't have to climb stairs or operate elevators? Then you should investigate the attractive offices available in this deluxe new professional building adjacent to Baptist and Deaconess Hospitals. Clinic Building, 3434 Northwest 56th, Oklahoma City. Contact Key Y, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

INTERNIST for five-man department in busy and steadily growing north central Kansas 13-member multi-specialty group. Partnership after salary for two years. Board eligible or certified. Contact Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

WANTED board qualified or certified ophthalmologist in town of 24,000 population with a trade area of approximately 50,000. Town has three fully accredited hospitals. Large ophthalmology practice being abandoned. Excellent opportunity. Contact Kevin C. Taylor at BR 3-5801 or P.O. Box 909, Shawnee, Oklahoma.

WANTED: Staff physicians (3). General practitioners 45 or under to assist attending staff and general practice residents in 260-bed general hospital. Annual appointment preferred. \$15,000-\$17,500 depending on training and experience. Contact Medical Director, San Luis Obispo General Hospital, San Luis Obispo, California. Phone 805-543-1500.

PHYSICIAN WANTED to work full-time in university health work at Oklahoma State University, Stillwater. Excellent working conditions, regular hours, and many extra benefits. Contact Donald L. Cooper, M.D., Director, Student Health Service, Oklahoma State University, Stillwater, Oklahoma.

PARTNER WANTED: GP or surgeon to join three doctors. We own our clinic building and equipment located only three blocks from modern hospital operated by the Felician Sisters. Excellent salary first year with full partnership at the end of one year to compatible, competent M.D. Contact the Neumann-Ottis Clinic, Okarche, Oklahoma.

O.U. GRADUATE awaiting active duty in the Air Force desires locum tenens work during the months of July and early August. Contact Key H, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED physician to take over well-established general surgery practice. Central location near all hospitals. For further information, contact Key P, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

Complimentary space available to members for three consecutive months. For non-members, the rate is \$5.00 each month for each inch of copy or fraction thereof.

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The Clinical Attitude

SPEECH PATHOLOGISTS, audiologists and otolaryngologists deal with a very special type of malady. This takes many forms but ultimately it results in imperfections and inadequacies of human communication. We are helped in this vast area by many other disciplines, but the ultimate problems of diagnosis, therapy and rehabilitation are left to us. Each member of this team has his special knowledge and skills to apply for the benefit of a person with the malady. Unfortunately the members of this communications team often do not communicate well with each other. The very terms used to describe those whose problem concerns us most may vary from patient to client to subject to student. The significance of this difference in nomenclature lies in the difference in clinical attitude fostered by these terms. Only the term, *patient*, suggests that the individual concerned is ill, that there is a disease of communication or that a disease with symptoms of inadequate communication exists. This concept is central to our clinical attitude. If we assume that the patient is an educational or social problem, we are likely neither to call him a patient nor to think in terms of him and his disease. The realization of this fact allows us to set in motion a proper understanding of his problem and our problem of ameliorating or eliminating his disease.

The patient's first reaction to his disease is to deny that it exists. This response is universal regardless of the field of medicine in which the patient is categorized. You are well aware of the time we spend every day in overcoming this initial and often prolonged reaction. Invariably patience and guidance are necessary. The situation changes radically once this denial ends and acceptance of the disease begins. There is a sudden change from saying "That's silly, I don't have this trouble" to "Great Scott, I do have it, and I want something done about

it." At this point speech pathologists, audiologists and otolaryngologists have been found lacking in the past and are still lacking too often.

Individually we can not meet the problems of all patients with communicative disorders but collectively we can. The real problem is the application of the advances of each of these disciplines to the patient at his bedside, in his school or wherever we find him. Considerable progress has been made in dealing with a number of these diseases more or less independently by speech pathology, audiology and otolaryngology.

The roots of speech pathology generally have been independent of medicine. Often they may have been linked academically and professionally with departments of speech in colleges of arts and science. Here they have not had much medical contact and have suffered from a lack of financial support. Long ago, however in this setting speech pathology began to make tremendous advances in speech science and in careful clinical observations of the diseases it encompasses. Its independence as a separate discipline has long been established by its fundamental contribution of new knowledge. The lack of medical participation in its training programs has been and continues to be a disadvantage. Its independence from medicine had the disadvantage of limited interest in the more pressing and severe communication disorders. This disadvantage is being reduced in many speech pathology training programs where emphasis is being placed on experience in a hospital setting for at least part of the training. This separation from the general body of medicine has emphasized an educational attitude toward these patients. For speech pathology to achieve its rightful place as a medical discipline it must continue to educate the rest of the medical community to its progress. This education is difficult because of continued separation from the medical community. An interesting phenomenon in speech pathology is its institutionalism which

Presented at the Oklahoma Speech and Hearing Association Sixth Annual Spring Conference at the Oklahoma School for the Deaf, Sulphur, Oklahoma on April 2nd, 1965.

I think is bred in part by this educational attitude. Most graduates in speech pathology seek their life's work in an educational institution. It is rare for speech pathologists to practice independently or privately, if you will, outside some sort of educational institution. Their association with hospitals in recent years is a new and forward step. Physicians and their patients suffer from this lack of contact with medically sophisticated speech pathologists. I do not intend to downgrade the great value of speech therapy in primary and secondary schools or to ignore the arts and science colleges who teach speech pathology. Rather it is a plea for them to encourage their students in careers in medically oriented speech pathology.

Audiology has also made great progress. Originally audiology was often a sheltered child of otolaryngology, but during the last fifteen years it has earned its independence as a separate discipline by contributions of great significance. It has developed to such a degree that anything short of independence from otolaryngology would impede its further development. This independence has a number of practical advantages in matters of the intellectual honesty of otolaryngology. In an academic situation it is not hard to imagine the bias inherent in the clinical evaluation of treatment by an otolaryngologist when the ultimate yard stick of the treatment's efficacy is the hearing evaluation by an audiologist who is too dependent on the otolaryngologist.

Audiology with its more usual medical setting for training should have escaped some of the educational attitude so natural in the development of speech pathology; but in my opinion, it didn't. Audiology also suffers from institutionalism. A graduate in audiology usually seeks his life's work in an educational institution. Recently he has been more prone to seek a hospital setting for his work but again usually in a teaching hospital. It is still rare for an audiologist to practice independently or privately. Although instrumentation is complex and equipment costs are high, these factors are not the primary reason. Audiology will not achieve its final place clinically until par-

ticipation in the care of the patient becomes the central focus. These remarks are not intended to detract from the importance of basic research in audition and the measurement of hearing. However, emphasis must continue on training the audiologist in his responsibility to the patient.

What sort of approach is necessary for a good clinical attitude? What are the ethics of the relationships? First, the ethics of the situation must be designed to protect the patient, not for protection of the practitioner as is so often the misunderstanding both within and outside of our professions. The ultimate goal is to provide the best possible care available from the resources at hand. This goal requires a certain morality in the sense of good will: good will to do the best for the patient regardless of personal inconvenience and extra effort, and good will to make serious application of the skills and facilities available. Only in a teaching situation where this good will is the most important consideration can we turn out worthy graduates.

The secondary aspect of the good clinical attitude has to do with the relationship among the practitioners because it relates directly to care of the patient. In complex problems, where more than one discipline is brought to bear on the patient's problem, the relationship between the disciplines must be wholesome. As already indicated, disciplines must be independent to be wholesome. Fresh ideas and intellectual honesty do not flourish in dependent situations.

To be wholesome, the relationship between the disciplines must not be competitive. Instead of competitive, the disciplines should be complementary. Complementary in the sense of providing for the patient those things they can do best and which other disciplines can not do so well. These lines of complementation need not be rigid, but they must be respected and tread on only with wisdom and good will. I find competitive attitudes between otologists and audiologists or between laryngologists and speech pathologists repugnant. Complementation and cooperation in the diagnosis and care of the patient are more desirable.

As medicine moves deeper into less pressing diseases from the standpoint of mortality we must not be found lacking because

we can't communicate with each other or because we don't know how to complement each other. We agree that each point of view or discipline is necessary. The real problem is how are we going to get closer together independently yet complementarily. Can we do this without losing our identity? Such problems are easier to point out than to solve. I can only speak of what we are attempting in our training program in otolaryngology. We have instituted a regular, though informal series of seminars in speech pathology for residents under the direction of speech pathologists. We meet regularly with audiologists and discuss specific cases from the audiologic and otologic points of view. Our residents take courses in basic and advanced audiology. We are blessed on our own campus with a Speech and Hearing Center of international esteem. Likewise we are blessed with a state full of forward-looking speech pathologists and audiologists. I think our residents in otolaryngology and our medical students receive from these teacher-clinicians a far greater appreciation of the important complement to the care of the patient offered by audiology and speech pathology than I received in my training at similar levels. We are enjoying our first step in this direction, and our students and residents are benefitting from it.

The direction of training programs in audiology and speech pathology surely must be as flexible as ours. Altering the direction of a training program is relatively easy. Its overall influence is surprisingly direct, not so much by our efforts at continuing education as they are presently designed as by associating with colleagues who have new ideas.

Let us join in mutual learning to a degree previously unattained. This plea is not for a half-baked, multi-disciplinary approach where each individual looks at a patient from his limited point of view and with little concern for understanding the whole problem. Instead, let each of us understand the whole problem as best we can, and then contribute whatever our special skills permit. Let us do this inside and outside our training institutions in independent yet interdependent complementation for the benefit of those who lack the gift of communication. The real

problem remains: Can we bring to the patient's bedside, to his school or anywhere the most up to date knowledge from these three disciplines as well as that from other disciplines. I am confident in the progress we have made and in the course the future will take. □

James B. Snow, Jr., M.D., Professor and Head of the Department of Otorhinolaryngology at the University of Oklahoma Medical Center.

Why?

NOT LONG AGO a very competent rheumatologist delivered an apologetic lecture on what medical science does not know about rheumatoid arthritis. "We don't have the slightest idea of what causes it," he said, "therefore our treatment consists only of measures to control symptoms and minimize disability until the disease runs its course."

On first thought this is a depressing admission but when a fellow examines other areas of medicine in a search for fundamentals he finds that rheumatology is not unique in its ignorance. Why do some people have cancer, atherosclerosis, renal calculi or uterine fibroids? Why does one person develop acute tonsillitis or chronic pyelonephritis while another does not? The list is nearly endless.

Current knowledge limits doctors to soothing their anxious patients with explanations like "individual susceptibility" or other equally meaningless phrases because when you get right down to it we know pitifully little about the true etiology of most diseases.

Medicine's greatest accomplishments during the past few decades have been largely in the field of what to do about an illness after it begins, but if medical progress continues unhampered, another 50 years should see a great many valid explanations replacing the numerous question marks in medical texts today. Men will look back on these days and say, "It must have been frightening to live in those days. They didn't even know what causes cancer!"—*C. B. Dawson, M.D.* □

The Cost of Conducting Sponsored Research

UNITED STATES medical school expenditures for the performance of federally sponsored research totaled 206.7 million dollars in academic year 1962-63. This amount indicates a more than ninefold increase in the dollar volume of federal research activity since 1953.

Twenty-five years ago when the federal government began supporting small programs of research, grant recipients were quite willing to absorb a portion of the costs of conducting research programs, since they did not necessitate increased space or personnel costs. A theory prevalent at that time stressed that the benefits derived by a recipient institution more than offset the small amount of expense incurred. However, the amounts concerned are no longer small and research programs now incur expanded space and staff expenditures constituting an increasingly larger major diversion of institutional funds essential to the support of the regular operating programs of the institution.

A study made by the National Science Foundation in 1962 reported on indirect costs as a part of the direct cost of operating federally sponsored research programs at

93 large colleges and universities which in 1960 received federal grants in excess of \$250,000 each. The schools in this study, including all of the U. S. medical schools, perform 90 per cent of the federally sponsored research in colleges and universities. Their indirect costs ranged from less than 18 per cent to more than 50 per cent of direct costs computed in accordance with the Bureau of the Budget Circular A-21. The weighted average indirect cost rate for the 93 schools was found to be 28.2 per cent.

An estimate of the magnitude of indirect research costs borne by the medical schools may be obtained by examining National Institutes of Health grants which in 1963 accounted for 62 per cent of the total federal expenditure for medical research. The table shows the 28.2 per cent average rate applied to NIH research grants to medical schools for the years 1960 to 1964.

On the assumption that the maximum allowable indirect cost reimbursement rate of 20 per cent for NIH research grants was received by the medical schools, and that the average indirect cost is 28.2 per cent, the medical schools are absorbing the 8.2 per cent difference. Thus it appears that the medical schools in 1962-63 expended at least 15.6 million dollars in support of NIH research programs alone, an amount equal to almost half their reported annual income of 32.3 million dollars in tuition and fees. □

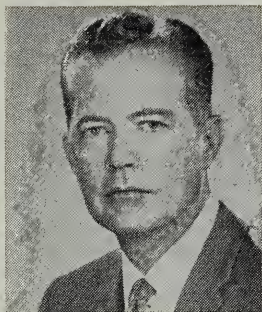
TABLE
Estimated Indirect Costs of Research Sponsored by NIH, 1960-64

	1960	1961	1962	1963	1964 [‡]	Totals for Five Years [†]
NIH Grant Amounts	92.6	138.3	172.6	190.8	224.5	818.8
Estimated Indirect Costs (28.2%)	26.1	39.0	48.7	53.8	63.3	230.9
NIH Maximum Reimbursement (20%)*	18.5	27.7	34.5	38.2	44.9	163.8
Estimated School Cost	7.6	11.3	14.2	15.6	18.4	67.1

*Due to Circular A-21 restrictions, virtually none of the schools have been able to collect the maximum reimbursement of 20 per cent. A revised Circular A-21 became effective July 1965 after which time schools should be able to receive reimbursement at the maximum rate.

[‡]Estimated.

[†]Including 1964 estimate.



In my more paranoid moments, which seem to be repetitive in increasing frequency, I get to feeling that nobody nowadays really likes Doctors! It was refreshing, to say the least, when I recently discovered one group who loves us, serves us, applauds us, understands us, and works diligently toward the best interests of this profession!

I speak, with pride, of the Oklahoma State Medical Assistants Society—an organization whose membership is made up of our "Girls Friday," our office assistants, secretaries, bookkeepers, technicians, nurses, and all of the various and sundry wonderful people who staff our offices and make our professional world a more pleasant place to live. But, even as I found their devotion reassuring, I had to admit, with complete candor, that we had failed them in terms of support and assistance. Last May, I was privileged to serve as their banquet speaker in conjunction with their annual meeting in Bartlesville. After the dinner, these very capable and dedicated young women clustered about me to discuss their program, their plans, their hopes for the future. I was impressed; and I would here wholeheartedly endorse both their effort and their organization. Their weakness, and the same can be attributed in large part to our lack of interest, is best explained by a letter I received yesterday from the President of one of their County Societies who was suffering, as I frequently do, from professional inertia. She wrote, "I have tried, since I have been President, to get more girls interested; but it is difficult to do, especially if their employer is not active in the local Medical Association. This might be a suggestion for the President of the State Medical Association—to encourage the Doctors to interest their girls in our organization." To this young lady I would say, with complete sympathy, "I have the same problem—but I'll help you with yours!"

The Oklahoma State Medical Assistants Society was formed after an organizational meeting in Tulsa on April 19, 1948. From the beginning, their organization existed for just one most laudable purpose—to improve the quality of service which was to be rendered by the individual member—to upgrade, to educate, to achieve in professional excellence! I was appalled, not long ago, when I learned that some members of this Association had opposed the formation of a local Medical

Assistants Society on the grounds that such an organization constituted, in effect, a labor union which might subsequently "strike" for higher wages and better working conditions!

This, Gentlemen of Medicine, is a professional association which, like our own, exists for the purpose of continuing education toward the goal of better service—nothing more!

But, through our own apathy, this excellent organization is dying! Of Oklahoma's seventy-seven counties, only fifteen now have organized chapters. Nine county organizations have been disbanded, after initial organization, because of lack of interest! Oklahoma County, with a potential in excess of 3,000 members, now enjoys 43 actives. Tulsa County boasts 24 paid members. The State of Oklahoma, with a potential well in excess of 10,000 now boasts 185 members. But, Thank God for these magnificent 185! These girls, through the facilities of the University of Oklahoma's Continuing Education Center and Tulsa's new Vocational Technical Center, have put on programs of professional education which make some of our own efforts seem small by comparison! These concentrated courses offer a curriculum including everything from "handling delinquent accounts" to "presenting new patients." Their recent state meeting was a masterpiece in planning design.

In 1958 this small band of Oklahoma girls had the talent, the ability, and the drive to elect one of their members to the presidency of their National organization; and that same lady, Lucille Swearingen of Bartlesville, now serves as Speaker of their National House of Delegates. Last year these "stalwart few" battled it out with larger powerful societies from heavily populated areas like New York, California and Pennsylvania . . . and they emerged victorious in their drive to bring their National meeting to Oklahoma City. Here they welcomed delegates from every state in the Union with warmth, with Oklahoma hospitality, and with humility born of smallness! I know . . . because I was there . . . amazed, applauding, and very, very proud! Which of our own professional groups can claim comparable accomplishments on a National level?

And so I would say, without the usual fear of contradiction, this is a fine organization! They deserve our interest, our support, our backing . . . and they ask nothing more. Within the next few weeks they will be contacting you—personally or by letter. Please show them the courtesy of your careful attention—then offer your personal support. □

Rex Kenyon

Heart's Conducting Media and Unipolar Leads

ROBERT H. BAYLEY, M.D.

Certain recent articles remove the foundation for Unipolar Electrocardiographic Leads. This foundation is herein reestablished by the most simple potential theory.

INTRODUCTION

CERTAIN "restricted" conditions which have recently been proposed for the method of solution of the potentials produced by the heart beat^{1,2,3} differ in some respects from those accepted (in the electrocardiographic literature) over the past 35 years. In either case the proposals are not in serious conflict but require clarification since the former unnecessarily *abolishes* the *foundation* for direct and semidirect unipolar electrocardiographic leads.

The method utilized here is not new but emanates from the originators of potential theory, Gauss, Green and Laplace.⁴ It gives a *unique* value for the potential at all field points, offers a firm foundation for the interpretation of unipolar electrocardiographic leads, and yields the potential differences throughout all regions of interest which are

identical to those offered by the "restricted" conditions.

For illustration, the influences on the heart's potentials that are produced by arbitrary changes in the medium *exterior* to the body's surface will be described in their most simple form. This problem is chosen primarily because the "restricted" conditions, *i.e.* the potential function is *harmonic* and satisfies *zero normal derivative* on the surface of the insulated conductor, are *not sufficient* for a solution of this problem. In this respect, these conditions appear *less general* or "restricted" when compared to the conditions imposed upon the potential in the solution which follows.

STATEMENT OF THE PROBLEM

In the usual case the exterior medium is air which is homogeneous, diffuse and *non-conducting*. If these nonconducting properties are changed arbitrarily, what happens to the heart's potentials?

The *model* taken to represent the body and its environment is a homogeneous spherical conductor of surface S and of radius R . The *field* source is that of a resultant current dipole at O , figure 1. The potential at any interior point of S is V_i and at any exterior point of S is V_o . The associated specific resistivities are ρ_i and ρ_o , respectively, figure 1. Here, the assumption of a constant curvature of S , of homogeneity interior to S , of a centric (rather than an eccentric)

From the Department of Medicine, University of Oklahoma Medical Center, Oklahoma City, Oklahoma.

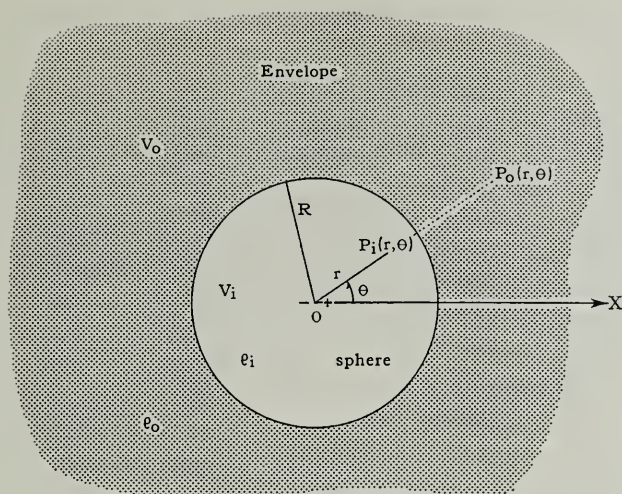


Figure 1. Body model represented as a homogeneous spherical conductor of surface S and radius R . Interior to S the potential at any point is V_i and the specific resistivity is ρ_i . Exterior to S the potential at any point is V_o and the specific resistivity ρ_o . The resultant dipole is shown with its axis along the positive axis of X . Polar coordinates for any field point are r and θ .

resultant field source, and of a diffuse homogeneous medium exterior to S are completely acceptable for the purposes of the present argument and are essential to the simplicity of its presentation.

We define the equivalent resultant dipole moment M by

$$M = ID\rho_i/4\pi = \mathcal{E}/4\pi \quad (1)$$

wherein I is the current through the poles and D is the small pole spacing. Frequently, ρ_i is not absorbed into M . Since I varies with time, we must take M as a constant at a given instant of time during accession. The matter is not as simple during *regression* because M is a space variable as well as a time variable during this interval. Clearly, $\xi (= ID\rho_i)$ in (1) has the dimensions of an electromotive force.

The solutions for V_i and for V_o have the requirement that *each* shall be a harmonic function; that is, they must satisfy the second order differential equation of Laplace for all field points $p(r, \theta)$ of space where *no* field source exists. This excludes the small region at O , figure 1, where the origin of the resultant heart vector is located. In mathematical terms this requirement is stated in the form

$$\nabla^2 V_i = 0, \text{ and } \nabla^2 V_o = 0, \quad r \neq 0. \quad (2)$$

The simple terms which satisfy equation (2) are well known and, for our present needs, they are $\cos\theta/r^2$ and $r \cos\theta$. Both terms are utilized in a sum for V_i and only the former is required for V_o .

The remainder of the problem centers upon the so-called *boundary conditions* at the interface S which separates the media that differ significantly in their specific resistivities, ρ_i and ρ_o . Here, the potentials V_i and V_o must be *continuous* at every point of S and the components of the current normal to S must also be *continuous* at every point of S . When put in mathematical terms, the conditions are⁵

$$(V_i = V_o)_r = R \quad \text{and} \quad (\partial V_i / \rho_i \partial n = \partial V_o / \rho_o \partial n)_r = R. \quad (3)$$

The simple contour chosen for S permits the observations that

$$\partial V_i / \rho_i \partial n = \partial V_i / \rho_i \partial r, \quad \text{and} \quad \partial V_o / \rho_o \partial n = \partial V_o / \rho_o \partial r$$

The first relation in (3) holds when r is replaced everywhere by R in the solutions for V_i and V_o . The second relation in (3) holds when R replaces r in these solutions after the partial differentiations indicated have been carried out.

We are now in a position to obtain the general solution of the problem.

GENERAL AND PARTIAL SOLUTIONS

We may commence with the relations

$$\left. \begin{aligned} V_i &= M[1/r^2 + K_1 r] \cos \theta, & 0 < r \leq R \\ V_o &= M[K_2] \cos \theta / r^2, & R \leq r \leq \infty \end{aligned} \right\} \quad (4)$$

wherein K_1 and K_2 are constants to be evaluated. Relations in equations (3) and (4) are just sufficient to determine K_1 and K_2 . The result is

$$K_1 = \frac{1 - \rho_i/\rho_o}{1 + 2(\rho_i/\rho_o)} \cdot \frac{2}{R^3}, \quad \text{and} \quad K_2 = \frac{3}{1 + 2(\rho_i/\rho_o)} \quad (5)$$

Using (5) we may put (4) in the form

$$\left. \begin{aligned} V_i &= M \left[\frac{1}{r^2} + \frac{1 - \rho_i/\rho_o}{1 + 2(\rho_i/\rho_o)} \cdot \frac{2r}{R^3} \right] \cos \theta, & 0 < r \leq R \\ V_o &= M \left[\frac{3}{1 + 2(\rho_i/\rho_o)} \right] \frac{\cos \theta}{r^2}, & R \leq r \leq \infty \end{aligned} \right\} \quad (6)$$

The equations in (6) are the desired general solution.

We observe that the second equation in (6) has the important limit

$$\lim_{r \rightarrow \infty} [V_0] = 0 \quad (7)$$

This result conforms with the fundamental requirement that the line integral of $dV_0 = \vec{E} \cdot d\vec{r} = -\nabla V_0 \cdot d\vec{r}$ from any point $p(r, \theta)$, $R \leq r \leq \infty$ gives V_0 as its higher limit and, if taken to infinity by any path for its lower limit, *vanishes* there whenever the field source is bounded;^{4, 6} that is, when there are no poles at infinity. In mathematical terms this is

$$\int_{\infty}^{V_0} \vec{E} \cdot d\vec{r} = V_0 - \lim_{r \rightarrow \infty} V_0 = V_0, \quad R \leq r \leq \infty$$

and V_0 is a *unique* potential point function for the region $R \leq r \leq \infty$. Inasmuch as V_0 is unique at all points of S and $V_1 = V_0$ at all points on S by equation (3), V_1 is also *unique* throughout the region $0 < r \leq R$, and the general solution (6) describes the potentials as unique point functions for every point in space where no field source is located.

We now consider three particular solutions of the general solution by taking particular values for ρ_0 in equation (6).

Particular Solution (1): If the medium exterior to S is air, we may take $\rho_0 = \infty$ since air is *nonconducting* under the small values for V_0 . Equation (6) gives

$$\left. \begin{aligned} V_1 &= M \left[\frac{1}{r^2} + \frac{2r}{R^3} \right] \cos \theta, & 0 < r \leq R \\ V_0 &= 3M \cos \theta / r^2, & R \leq r \leq \infty \end{aligned} \right\} \quad (8)$$

In 1927, R. Canfield⁷ gave the first of

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these relations. Having let $\rho_0 \rightarrow \infty$ in equation (3) we get $(\partial V_1 / \partial n = 0)$ when $r = R$ after differentiation. This result indicates that currents in the heart's field which are normal to S vanish at every point of S . Canfield's equation in (8) satisfies this boundary condition of "zero normal derivative on S ." In effect, there is (under this condition) no *electrodynamic* field exterior to S . Nevertheless, (8) clearly indicates that electrostatic values for V_0 exist exterior to S which in general are *not constant*. They are, however, below "noise level" for $r > R$ and are therefore not conveniently measurable unless ρ_0 is finite (as in particular solution 2).

From either of equations (8) we may obtain the body's surface potentials V_s at every point of S by taking $r = R$. The result is

$$V_s = V_1 = V_0 = 3M \cos \theta / R^2 \quad (9)$$

This result indicates that the heart's potentials on S , for air exterior to S , are three times the value that would obtain at the same points if the conducting medium were uniform and infinite; that is, when we take $\rho_0 = \rho_1$ in (6).⁸

If now we average the value of the surface potential in (9) over S and denote this average value by \bar{V}_s , we get

$$\bar{V}_s = \frac{1}{4\pi R^2} \iint_S V_s \, ds = 0 \quad (10)$$

Here, the right side of (10) agrees with that of equation (7) and we may take \bar{V}_s as *equivalent* to the zero of potential of the heart's field at infinity. Equation (10) is a particular consequence of Gauss theorem on the mean for the sphere.⁹ The theorem gives zero for \bar{V}_s whenever the poles within S have a zero net pole strength. The positions of the poles within S are immaterial. Our studies indicate that (10) holds for the boundary of the elliptical lamina and hence for the ellipsoid¹⁰ and probably for a non-reentrant surface of arbitrary form.

It is not generally appreciated that equation (10) is the theoretical foundation for using the potential V_T of the Wilson central terminal as a "zero" reference potential with which to record accurately the direct and semidirect unipolar precordial leads.^{11, 12, 13} Here,

$$V_T = \frac{1}{3} (V_R + V_L + V_F) \quad (11)$$

is a good first order approximation of the

integral in (10) since by symmetry we have

$$V_T \approx \bar{V}_S \approx 0.$$

In a recent discussion of equation (11) Burger¹ omits mention of this important basic concept. Furthermore, E. Frank's estimates of the non-zero error on V_T ^{14, 15} are open to serious question on fundamental grounds.¹⁰ It now appears that the body's *non-homogeneity factors* considerably enhance the accuracy with which V_T in equation (11) approximates the value of \bar{V}_S in equation (10).¹⁶

Particular Solution (2): Here, ρ_0 is assigned the value of 1000 Ω cm. and ρ_1 is assigned the value of 700 Ω cm. The former approximates the value for tap water and the latter is a rough average for the various body tissues.¹⁷ The body is immersed in an extensive volume of tap water wherein $\rho_1/\rho_0 = 0.7$. With this value for the ratios in equations (6), the potential may be estimated. The result is

$$\left. \begin{aligned} V_i &= M \left[\frac{1}{r^2} + (.25) \frac{r}{R^3} \right] \cos \theta, \quad 0 < r \leq R \\ V_o &= M [1.25] \cos \theta / r^2, \quad R \leq r \leq \infty \end{aligned} \right\} \quad (12)$$

From either of these equations the body's surface potentials V_s are computed by taking $r = R$. The result is

$$V_s = V_i = V_o = M[1.25] \cos \theta / R^2. \quad (13)$$

Comparing equations (13) and (9) shows that immersion of the body in tap water reduces the body's surface potentials proportionally to about 40 per cent of the values which would exist if the body were in air. The associated low value for V_T in (11) may be compensated for by an increased sensitivity of the detector amplifiers. When integration in (10) is over a large copper spherical screen (which acts as an *integrating electrode*) that contains the subject and a large volume of tap water, the potential \bar{V}_s of the screen must by equation (10) be an accurate equivalent to the zero of potential taken at infinity. Here, \bar{V}_s has been used to evaluate the small variations of V_T with respect to \bar{V}_s .^{18, 19, 20}

Particular Solution (3): In this case ρ_0 is assigned the value zero for a *conducting* medium exterior to the body's surface S. With division by zero excluded, we change the form of equations (6) by multiplying

the numerator and denominator of the fractions (which contain the ratio ρ_1/ρ_0) by ρ_0 . When this is done and the value zero is assigned to ρ_0 , the result is

$$\left. \begin{aligned} V_i &= M \left[\frac{1}{r^2} - \frac{r}{R^3} \right] \cos \theta, \quad 0 < r \leq R \\ V_o &= 0, \quad R \leq r \leq \infty \end{aligned} \right\} \quad (14)$$

For the values of V_s on the body's surface S we take $r = R$ in (14) and get

$$V_s = V_i = V_o = 0. \quad (15)$$

This result indicates that when the body is imbedded in a *conducting* medium, body-surface electrocardiography is abolished! Adding an arbitrary constant on the right in equation (14) fails to alter annihilation of the potential differences on S. It is curious that Burger,¹ in discussing the potential problem for physicians, should choose a situation which abolishes body-surface electrocardiography. Moreover, $\rho_0 = 0$ in (6) is the only choice that gives constant values for V_o on, and exterior to, the body's surface.

DISCUSSION

The general conditions recently imposed upon the potential for the solution of the heart's electrical field problems are that the potential functions satisfy $\nabla^2 V_i = 0$ exterior to the field source and $(\partial V_i / \partial n = 0)$ on the body's surface.^{1, 2, 3} Since these two equations are in terms of the derivatives of the potential, they can determine V_i only up to some completely arbitrary constant. However, it is shown here by a general method which is not new,^{4, 6} how the potential may be defined *uniquely* at every point of interest interior, on, and exterior to the body's surface S. The method is credited by Maxwell⁴ to Gauss, Green, and Laplace. Since it gives fundamental support for interpretation of direct and semidirect unipolar electrocardiographic leads, physicians will be reluctant to abandon it unnecessarily. In recent laboratory experiments^{10, 16, 21 ... 25} the *existence* of the *unique* potential point function in the homogeneous and in the non-homogeneous insulated conductor is demonstrated conclusively by direct measurement of these functions.

The medium exterior to the body's surface S has a profound influence on the heart's

potentials. Though variable from point to point in space, the potentials are shown to be *maximal* for the regions interior, on, and exterior to S when the medium exterior to S is *non-conducting*. They are *intermediate* in these regions when the exterior medium is tap water. They are *minimal* within S and zero on and exterior to S when the exterior medium is *highly conducting*. In the last instance, body-surface electrocardiography is *abolished* and consequently this particular solution is of little interest to physicians. □

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THE DOCTOR'S HEALTH

A recent survey* of 5,168 physicians provides an interesting view of the "typical" doctor's profile:

- He is 5' 10" tall, weighs 175 pounds, and is 43 years old.
- He works 58 hours a week, vacations 20 days a year, loses an average of 5.2 days from practice each year due to illness, and hasn't had a physical in 16 months.
- Infectious and parasitic diseases strike him most frequently (38 per cent), followed by gastrointestinal diseases (13 per cent) and cardiovascular diseases (12 per cent).
- When the doctor is ill, he most frequently consults an internist (31 per cent), and 64 per cent of all physicals on physicians are performed by internists.
- The chances are he doesn't smoke (54 per cent).
- He will probably die of heart disease (48 per cent).

*Patterns of Disease, Parke, Davis and Co., May-June, 1965.

Severe Introtophaceous Gout

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T. B. COLLUM, M.D.
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*A severe case of gout is reported
with a brief review of complications
and treatment.*

GOUT IS NOT an uncommon disease. However, extensive tophaceous gout as seen in the patient reported here is rather rare at the present time. In fact, the findings in this case are reminiscent of the material one finds in the 18th Century literature on gout.

This patient was admitted to the Veterans Administration Hospital in Muskogee, Oklahoma on June 29, 1964 with a history of arthritic symptoms since 1947. For the past several years he had been taking corticosteroids. He stated that he had been taking one Decadron® tablet three times a day for about three years. The physician who was treating him had died so he continued to have the prescriptions refilled and kept taking it for more than a year after the death of his doctor. He had experienced many episodes of drainage of purulent, crys-

talline material from his elbow, great toes and occasionally from the joints in his fingers.

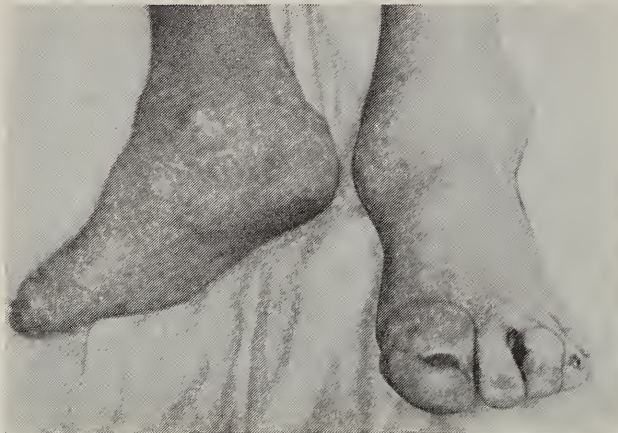
This man had been working as a dispatcher for a trucking firm in Tulsa, Oklahoma until the time of his hospitalization.

Past history. The patient had been in fairly good health except for his arthritic complaints.

Family history. He was married and had four children. He had one maternal uncle who was said to have had gout and apparently died from it at the age of 23 years in the early 1930's.

Physical examination. The patient was a rather obese, white man, 38 years of age. He had a round, moon-face and a buffalo hump, typical of long continued steroid medication. The abdomen was distended and ascites was present. The lower extremities were extremely edematous; there was fissuring of the great toes with fluid draining from the fissures. There were brown pigmented areas about the hands and forearms.

Tophi were present in the interphalangeal joints of both hands and the great toes. Minor tophi were present on the other toes of both feet. Tophi were noted in the ears as well as over both knees and the left olecranon bursa but these were rather small.



Photograph of both feet.

Within a few days after admission, the left olecranon bursa opened spontaneously and drained purulent and crystalline material, apparently sodium urate crystals.

Laboratory Data: On admission the white blood cell count was 15,100 with 78 per cent neutrophils, 18 per cent lymphocytes, three per cent monocytes and one per cent eosinophiles. The sedimentation rate was 32 mm in one hour; the hematocrit was 46 per cent; the hemoglobin was 14.4 Grams. The blood urea nitrogen was 18 mg. per cent. A urinalysis was as follows: clear, alkaline, specific gravity 1.012, albumin-trace, sugar-negative, microscopic 2 to 3 white blood cells per high power field. The blood uric acid level was 15 mg. per cent. The serology was non-reactive.

Cultures of drainage from the left elbow and the feet showed *E. coli* as well as pigmented, coagulase positive, *Staphylococcus aureus*. The organism was sensitive to chloramphenicol.



Photograph of both hands.

Roentgenographic Data. Roentgenograms of the feet showed pronounced destruction of the articular portions of the phalanges of the great toes at the interphalangeal joints with fragmentation and calcific debris. The soft tissues of the feet appeared edematous. There were destructive notch-like erosions at the articular surfaces of the interphalangeal joints of the right third finger. Similar changes were seen at the proximal interphalangeal joint of the fifth finger. These were typical of gouty changes. The left hand showed notch-like erosion of the articular surface of the base of the proximal phalanx of the index finger and soft tissue swelling about the proximal interphalangeal joint of the ring finger. There were also periosteal calcifications along the shaft of the proximal phalanx of the fourth finger. Roentgenogram of the chest was essentially negative. An electrocardiographic tracing showed myocardial ischemia.

CLINICAL COURSE

The patient was started on a low purine diet. Tanderil was begun at 200 mgm. three times daily for three days, then 100 mgm. three times daily. Hygroton was given 100 mgm. two times daily for three days. Hot soaks were applied to both feet and the left elbow. Probenecid, 0.5 Gm. two times daily, and colchicine, gr 1/100 every four hours were given. He did not tolerate the colchicine because of gastric upset so it was discontinued. Chloramphenicol 250 mg. four times

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Photograph of left elbow.

daily and Acthar gel were given for seven days.

The patient did not respond well to therapy. A second uric acid blood level was reported 15 mg per cent on July 10, 1964. By July 15, 1964 his blood urea nitrogen had risen to 62 mg per cent. He became comatose and parenteral fluids became necessary. He developed signs and symptoms of renal failure and death occurred on July 19, 1964, apparently from renal failure. Unfortunately no autopsy could be obtained.

DISCUSSION

Free ammonia, a product of amino acid catabolism, is very toxic to all forms of life. This creates a problem in excretion or rapid neutralization. Fish excrete ammonia through their gills, using large quantities of water to protect themselves. Birds excrete ammonia mostly as uric acid, highly insoluble but non-toxic, through a common urinary-fecal duct. All mammals convert ammonia to urea with some formation of uric acid. Except for the ape, man and Dalmation coach hounds, all mammals have the enzyme uricase present in the kidneys in quantities sufficient to convert the insoluble uric acid to soluble allantoin.¹

Surveys indicate that in man, high social class and superior intellectual development are associated with a higher incidence of

gout. Other factors which increase uric acid levels are complete starvation and alcoholic intoxication as well as certain drugs such as chlorothiazides, certain antihypertensive preparations and salicylates in low dosage.²

Considering these diverse causes of elevated serum uric acid levels, we surveyed the literature for the possibility of an association between gout and the administration of dexamethasone. We found that David-Chausse, Lang-Levy and Fauque,³ and Louyot, Gaucher and Delagoutte⁴ report that in 16 and 34 cases, respectively, prolonged administration of corticoid preparations may induce a state of corticoid-dependent gout in which the severity and frequency of gouty episodes can be varied directly with the amount of steroid compounds administered. In the David-Chausse, *et al.*,³ series, dexamethasone was the drug implicated in 12 out of 34 cases. An additional difficulty encountered in these cases was that sudden and total withdrawal of the steroids brought about a "rebound" phenomenon in which the gouty episodes become very severe. Withdrawal of such preparations must be gradual.

Our survey of American and British literature yielded no positive results.

Circumstances indicate that the case presented here was a corticoid-dependent gout which developed because of (or in spite of) prolonged dexamethasone therapy. We present this case to show the severity of the side effects.

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Sputum Microbiology

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Certain chronic lung infections are so similar clinically and radiologically that only microbiologic determination of sputa can provide the diagnosis. Methods are outlined here.

RESPIRATORY DISEASES are the most common illnesses of man; therefore sputum is one of the specimens most often submitted to the microbiology laboratory. The manner in which the sputum specimen is collected and handled can contribute to or detract from the possibility of isolation of the etiologic agent. The purpose of this paper is to e n u m e r a t e pathogenic micro-organisms found in sputum and to outline procedures for isolation and identification of these organisms.

There is no such thing as normal sputum. The production of sputum is in itself a sign of lung pathology. Sputum should come from below the larynx. Patients should be instructed to collect sputum brought up by deep expulsive coughing with minimum contaminations by saliva and materials from the nasopharynx. The mouth should be rinsed with water prior to collection of the specimen to remove any residual food or medication. In infants and young children coughing may be initiated by swabbing the fauces for the collection of sputum. If equipment is available an aerosol-induced sputum

may be obtained in those patients who have difficulty in producing specimens. The aerosol induced sputum for microbiologic examination has been shown to be superior to gastric washings. Early morning specimens are usually better for most purposes since they represent a pool of material accumulated overnight. Specimens can be collected directly in sterile, wide-mouthed screw capped containers. The specimen should be examined without delay, but if this is not feasible, refrigeration for one to three hours is satisfactory for the recovery of most pathogens. One should keep in mind that the microbiological determination can never be better than the specimen on which it is performed. Organisms that constitute part of the normal flora of the human body occur in sputum, being deposited in the sputum

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specimen as it is expectorated through the upper respiratory tract, particularly the mouth. Therefore the sputum specimen is a contaminated specimen. This fact must be taken into account in the interpretation of results. The organisms of the normal flora found most often in sputum are listed in table 1. These organisms do not cause disease in a healthy host but they may produce severe, or even fatal infections when resistance of the host has been reduced. They are referred to as "opportunists." For example, *Actinomyces israeli* grows in crypts of the tonsil as a well-adapted parasite but may

Table 1
Bacteria of Normal Flora of Mouth

alpha hemolytic streptococci
Neisseria catarrhalis
other *Neisseria* species
coagulase-negative staphylococci
nonhemolytic streptococci
diphtheroid bacilli
pneumococci (usually in small numbers)
coliform bacilli

enter the lung following a predisposing event in the host and set up a severe infection.

Infectious diseases of the respiratory tract may be divided into two groups: (1) acute infections: Those with sudden onset that are usually self-limited and which last for two weeks or less, and (2) chronic infections: Those with an insidious onset and a long clinical course. The microbiology of the two types is also different. The acute infections are usually caused by viruses or pyogenic bacteria while the chronic infections may be due to the acid-fast bacteria, mycotic agents or even animal parasites.

The average hospital microbiology laboratory is not equipped, at present, to handle viral isolation, so many patients recover without a specific diagnosis. Evans¹ in a study of 710 university students sick enough for admission to the infirmary with acute respiratory illness, found that ten per cent were due to bacteria, ten per cent were viral and the other 80 per cent were unknown. More recently, Rhoads & Bryant² have been able to divide Air Force recruits with acute pneumonias into four groups: (1) *Adenovirus* infections, (2) *Mycoplasma* infections, (3) *Pneumococcal* infections and (4) unknown etiology, on the basis of clinical symptoms and microbiological confirmation. While viral techniques are not generally used, bacteriologic techniques are common place. Pathogenic bacteria most often encountered in sputum are listed in table 2. These organisms can be grown by inoculation of sputa on enriched media such as brain heart infusion blood agar. When anaerobic organisms are suspected thiogly-

Table 2
Pathogenic Bacteria in Sputum

pneumococcus (*Diplococcus pneumoniae*)
Klebsiella species
Haemophilus influenzae
Staphylococcus aureus
Streptococcus species

collate broth should also be inoculated. *Mycoplasma pneumoniae* (PPLO), the etiologic agent of primary atypical pneumonia, requires the addition of ten per cent horse serum or 20 to 30 per cent ascitic fluid to the medium for growth³. Colony formation must be observed by the low power objective of the microscope. Colonies of *M. pneumoniae* have a fried egg appearance and will hemolyze guinea pig⁴ or sheep⁵ red blood cells.

To isolate and identify the organisms causing chronic respiratory infections, the sputum specimen requires special handling. Many of these agents are potential hazards to laboratory personnel so that safety equipment and safety regulations are essential. Some type of bacteriological hood with a means of exhausting the air is desirable, but if not available the work should be done in a separate room used only for this purpose and equipped with an adequate exhaust system and ultraviolet radiation.⁶

Mycobacteria are distinguished from other micro-organisms found in sputum because of their acid-fast properties. But even these organisms must be sorted out and identified as we now know that pulmonary diseases may be caused by acid-fast organisms other than *M. tuberculosis*.⁷ Runyon⁸ arranged these "atypical" Mycobacteria into groups to facilitate study of them. The name "atypical" implies that they are unlike the human tubercle bacillus, *M. tuberculosis*, which is considered typical. They are unlike *M. tuberculosis* principally in their ability to grow at room temperature, their inability to produce niacin, and by the production of yellow pigment in some strains. Many of the atypical Mycobacteria form soft smooth colonies on solid media while *M. tuberculosis* typically produces rough, dry, friable colonies. The Runyon grouping is shown in table 3. Regardless of the *Mycobac-*

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Table 3

Runyon's Grouping of Atypical Mycobacteria

- Group I (Photochromogens) *M. kansasii*
Light dependent for pigment production
- Group II (Scotochromogens)
Pigment produced in light or dark
- Group III (Non-photochromogens) "Battey"
Bacilli
Weak or no pigment produced
- Group IV (Rapid growers) saprophytes
Growth within one week. Pigment varies

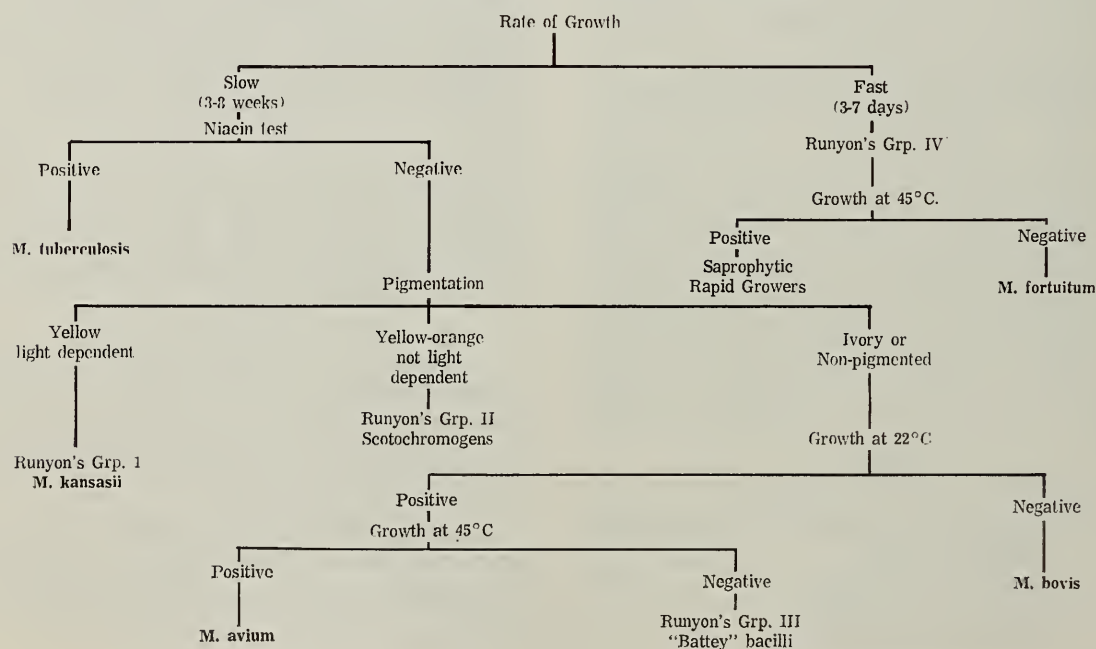
terium species suspected, the processing of the sputum specimen is the same.

Direct microscopy of smears of sputum stained by the Ziehl-Neelson method or a modification of this method may allow one to demonstrate the acid-fast organisms. However, it should be kept in mind that quantities of 25,000-50,000 organisms per cc of sputum are necessary for visualization.⁹ Fluorescence microscopy using auramine-O for staining has greatly increased the number of positive smears obtained. The organisms stand out and can be seen with greater ease.¹⁰

Sputum specimens to be cultured for acid fast bacilli must be treated to destroy the rapidly growing normal flora of the mouth in the specimen. This treatment consists of subjecting the specimen to an alkaline or acid solution. Alkali is generally

used in diagnostic laboratories. Most laboratories prefer either trisodium phosphate or 3 per cent sodium hydroxide. Acid-fast bacilli are more resistant to this treatment than other bacteria and will survive the process while other bacteria are destroyed. Following this treatment, the pH of the material is brought back to neutrality and the sediment is inoculated on satisfactory media. An egg-potato type medium is recommended for primary isolation. Melvin, *et al.*,¹¹ evaluated several media and found Lowenstein-Jensen to be superior but also found that the use of two different media could increase the number of positive cultures. Culture media should be placed in screw capped tubes or bottles. Laboratories that are not equipped to make their own media may obtain commercially prepared tubes of media. Inoculated tubes should be incubated flat for at least the first week to allow the inoculum to be absorbed into the medium. The screw cap must be loose to allow atmospheric oxygen to enter the culture tube. Mycobacteria are strict aerobes. Growth is slow (3-8 weeks) with all strains except Runyon's group IV organism. Cultures should be observed at weekly intervals. Negative cultures should be incubated a minimum of eight weeks before being reported as negative. When growth is observed on the culture, identification of the species must be made. The incidence of "atypical" species varies

Table 4
Flow Chart for Identification of Acid Fast Bacilli



in different locations. Both Runyon's Group I and Group III organisms have been found as etiologic agents of pulmonary disease in Oklahoma. Table 4 shows a flow chart, by which the various species of mycobacteria can be separated and identified. Drug-susceptibility tests may be performed from the growth on positive cultures. Various drug concentrations are incorporated into either solid or liquid media and inoculated with the test organisms. Drug-free tubes are included as controls. The method of reading and reporting results of drug-susceptibility tests depend on the method employed. When solid media are used, the amount of growth appearing on each tube is reported. Based on laboratory data alone, no conclusions can be drawn concerning the resistance or susceptibility of organisms. The decision as to whether an organism is resistant or susceptible to a given drug must be made by the physician who will have available both laboratory and other data on which to base his decision.

Infection of the lung with mycotic agents is concentrated in certain geographic areas. Infections with *Coccidioides immitis* is generally acquired in the southwestern United States¹² but the clinical disease may be manifest in other areas.¹³ Clinical cases of coccidiomycosis are frequently observed in Oklahoma. *Histoplasma capsulatum* and *Blastomyces dermatitidis* infections may be acquired in Oklahoma, particularly in the eastern half of the state. Patients with cryptococcosis and sporotrichosis generally have involvement of organs other than lungs but it should be kept in mind that pulmonary disease may occur with these organisms.¹⁴⁻¹⁶ The isolation of these mycotic agents from sputum is more difficult than that of the acid-fast bacilli. If sputum is obtained in the early acute phase of the disease or in a chronic phase where open cavitation has occurred, the organism usually can be demonstrated in the sputum. In other stages

of these diseases, sputum specimens usually do not contain the organisms. Growth is obtained by inoculation of sputum onto Sabouraud's agar and to brain heart infusion blood agar both of which contain antibiotics to control bacterial overgrowth.

Animal parasites in sputum specimens are rare. Pulmonary amebiasis occurs infrequently as an extension of an hepatic abscess. When it occurs, trophozoites of *Entamoeba histolytica* may be found in sputum. Ova of the lung fluke, *Paragonimus westermani* may also be found in sputum but this parasite is limited to the orient, the south Pacific, northern South America and Africa.

Only by good microbiological examination of sputum can chronic infectious pulmonary diseases be diagnosed and only by the collection and submission of good sputum specimens can good microbiology be done. □

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Dean's Message

Meaningful programs for medical education can only evolve after the development of a philosophy of education and the establishment of goals. Meaningful buildings can be designed only if planned around programs and goals. We believe the master planning and the programs now evolving for the University of Oklahoma Medical Center will have a great impact on medical student education.

We propose to "humanize" the cold facts of science by developing teaching programs that relate scientific facts to people. Patients are people and medicine is concerned with people whom we call patients. It is this fact that distinguishes, or should distinguish medical science from the other biological sciences. Although in an era of exploding knowledge a further fragmentation of medicine may seem inevitable—we do not think this is necessarily true. As a matter of fact, increasing knowledge in molecular biology is beginning to break down the traditional barriers between medical school departments. The microbiologist, pharmacologist, biochemist, physiologist, and the clinical scientist are all necessarily concerned with enzymes, protein biosynthesis, DNA, RNA, genes, and metabolic pathways. As a result, it is possible to teach a course in medical genetics without having a department of genetics, e.g., by coordinated efforts between an anatomist interested in chromosomal architecture, a biochemist knowledgeable in DNA and RNA chemistry, a microbiologist concerned with phage genetics and physicians concerned with inborn errors of metabolism (molecular diseases) it should be possible to present a basic science course that involves patients and provides an exciting meaningful experience to the student, superior to the traditional didactic course in genetics.

We believe that the best frame of reference for an exercise in a basic science is a patient. The best remembered experiences are those related to the "experiments of na-

ture" presented by a patient with an appropriate medical problem, e.g., the actions of digitalis are clearly demonstrable in a man with congestive heart failure and the observation of a cyanotic patient with and without oxygen can make a laboratory study of hemoglobin and hypoxemia unforgettable. It does not take much imagination to think of an endless number of examples of similar relationships between a scientific fact or principle and an actual clinical situation. We believe that the difference between the "stockpiling" of poorly retained data and true learning can be an appropriate patient.

The need to bring the clinician into basic science teaching is no greater than the need to bring the basic sciences into clinical years. This can be accomplished by a correlative curriculum, joint departmental appointments, and the establishment of multi-discipline teaching laboratory. We are designing our new basic science teaching laboratory building around this philosophy. Instead of each basic science department having a "block-long" laboratory for mass laboratory calisthenics, students will be assigned to a single laboratory comprised of modules for only 16 students. The students will be assigned a laboratory bench and this will be "home base." The teachers will come to them for the scheduled exercise. This obviously provides an increased efficiency of use and an improved "holistic" approach to teaching. In my opinion, this is our first step toward the education of the scholarly, scientifically oriented but humanistic family physician of tomorrow.

Education is not the same as training. We are concerned with training, too, and as the first step toward a training program in family medicine we are re-establishing a rotating internship at the University Hospitals next year. This will be a vigorous, well supported program, open for the innovations and adjustments that may become necessary to reach our goals. □



Testicular Feminization

JOHN E. ALLISON, Ph.D.

Characteristics of testicular feminization in man are compared with those associated with a strikingly similar anomaly in rats. The possibility of using rats to learn more about the syndrome in man is considered.

CASE HISTORIES of individuals exhibiting a type of male pseudohermaphroditism, now termed "testicular feminization," date back to 1817.⁹ Those with the syndrome are phenotypically female with primary amenorrhea. A few have eunuchoid tendencies. The breasts are quite well developed, however the axillary and pubic hair is scanty to absent. Griffiths, *et al.*,⁵ as well as Morris,⁹ explain that many so affected are attractive and marry as females.

Although a vagina is usually present, it is typically shorter than normal and ends blindly. A cervix is sometimes present.⁶ According to Morris and Mahesh,¹⁰ in the complete syndrome, the clitoris is not enlarged but is normal or small. Further manifestations of this condition are the absence of ovaries, oviducts, uterus, and, except for an absent or imperfect vagina, derivatives of

the Wolffian ducts. Dewhurst, *et al.*,³ report a case where two vestigial remnants were all that remained of the pelvic organs. This is not uncommon.¹¹

Testes are present. These are found in any one of three places: Intra-abdominally in the position normally occupied by the ovary, in the inguinal region, or within the labia majora. Gordon⁴ describes the testicular tubules as containing only Sertoli cells and spermatogonia. The ratio of spermatogonia to Sertoli cells is lower than it is in testes of normal adults. Histologically, both types of cells resemble those in normal males.¹³ Gordon believes that these gonads can be distinguished both from infantile testes and from undescended testes in otherwise normal males.

Morris and Mahesh,¹⁰ in reviewing the literature, find that in individuals exhibiting the syndrome there is a 22 per cent incidence of malignant tumors of the testes. They feel that such evidence is sufficient to justify removal of the gonads after secondary sex characteristics have developed. Secondary sex characteristics fail to develop after prepubertal castration. Removal of the testes is followed by substitution therapy.

The gonads in these individuals produce both androgens and estrogens within the normal range. Evidence for this is reviewed by Morris and Mahesh and Gordon. However, Griffiths, *et al.*,⁵ explain that urinary

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estrogen concentrations reported by them and others are at the lower end of the range for normal women. They suggest that this may account for the fact that, whereas breast development in these individuals is usually normal the nipples often remain infantile. Complete development of the urogenital sinus and Wolffian duct system in genetic males is dependent on androgen activity.¹¹ Morris and Mahesh interpret the absence of androgen activity in "testicular feminization" by postulating that even though androgens are present in normal amounts throughout the development and adult life of the individual, for some reason these hormones cannot act on their target organs. Since androgenic steroids apparently do not inhibit the Mullerian system, the lack of Mullerian derivatives in "testicular feminization" must be explained on the basis of a Mullerian inhibiting factor produced during embryonic development by the testes.⁷

The chromosome pattern in this syndrome is typically XY and likewise the absence of chromatin sex bodies in cells of these individuals further confirms that people so affected are genetic males. Walker, *et al.*,¹⁴ outline the methods used for determining chromosome pattern and sex in these individuals. Testicular feminization is inherited through the mother and more than one child in a family may be affected. Cornet, *et al.*,¹ describe a family of four sisters where only the eldest was genetically female. Their three maternal (married) aunts were childless. Two refused to be examined. The one was found to be normal. In discussing the genetics involved in this syndrome, Morris and Mahesh explain that it appears to be present as an incompletely expressed defect in maternal carriers such as mothers, grandmothers, aunts or sisters. This is manifest in these individuals by decreased sexual hair. Late menarche is also reported as a familial

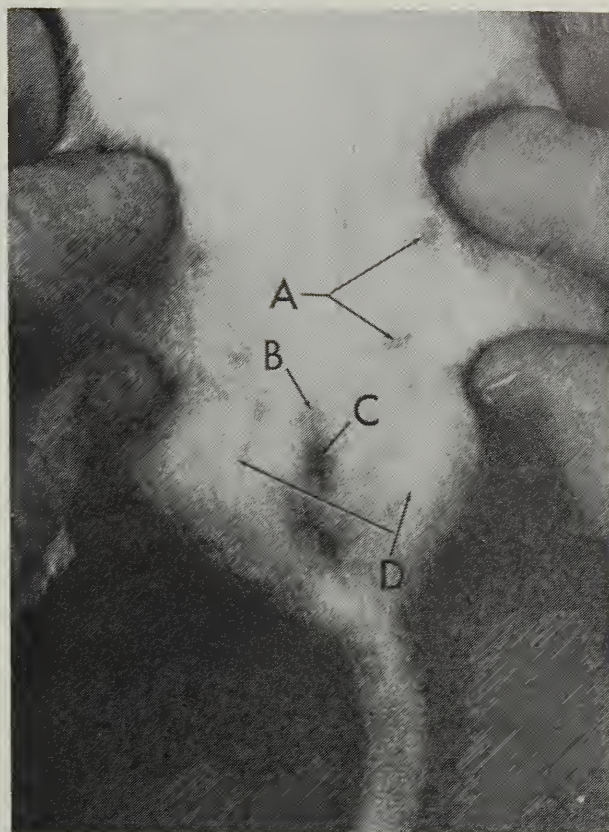


Figure 1. Pseudohermaphroditic rat with feminizing testes. (A) Mammary glands, (B) Genital tubercle, (C) Vagina, (D) Inguinal swellings indicating position of underlying testes.

trait. They add that although the chromosome complement is typically XY, a few others have reported variations suggesting an XO/XY/XX mosaic, or possibly an XXY constitution. They conclude that this syndrome is either an X-linked recessive trait or a male-limited autosomal dominant inheritance.

Pseudohermaphroditism with feminizing testes was first described in rats by D'Amour and Funk,² under the general term "intersexuality." The identical anomaly has arisen in a strain of King-Holtzman hybrid rats developed by Stanley and Gumbreck¹² at the University of Oklahoma Medical Center (figure 1). Physical characteristics described for these animals by D'Amour and Funk and further elucidated by Stanley and Gumbreck correspond with those seen in "testicular feminization" in man. D'Amour and Funk lost the original parents of their anomalous rats, however, Stanley and Gumbreck isolated the parents of their affected individuals and accurate genealogical records

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Doctor Allison is a member of the Sigma Xi, the American Association of Anatomists and the American Association of University Professors.

have been kept on each succeeding generation. More than 100 litters have been produced from the original family in which this defect arose.

The sex ratio of litters in which the syndrome is expressed show that the defect is present in half of the males born in litters in which it occurs. Stanley and Gumbreck indicate that this is the classical ratio produced by a sex linked gene. When females that have produced pseudohermaphrodites are outbred to male rats of unrelated lines, the sex ratios are the same; thus the female transmits the defect. Sires of these pseudohermaphroditic rats produce all normal sons and daughters which in turn produce normal offspring. Therefore the defect is not transmitted by the male. They postulate that earlier the gene may have been carried as an autosomal recessive, and by translocation arrived at its current position on the X chromosome. If future evidence proves that this is the same syndrome that has just been described in man, it should be easier to learn whether Morris and Mahesh's theory of "androgen insensitivity" is correct and, if

so, why the androgens will not affect their target organs. Also, genetic factors involved can more readily be worked out using rats.

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ABSTRACTS

PYELONEPHRITIS—AN IMPORTANT PROBLEM

Pyelonephritis is an important disease with the correct diagnosis being made in only 20-30 per cent of cases. Infancy and childhood along with the child-bearing period and old age represent the three periods of special susceptibility to pyelonephritis. One study reported 54 per cent of infants and 79 per cent of children dying of pyelonephritis had malformations of the urinary tract. A correctable urologic lesion is found in approximately one-third of the cases. In no infant no matter how young or small is definitive urologic evaluation contraindicated.

The clinical picture of pyelonephritis is quite variable. In infants gastrointestinal manifestations of nausea, vomiting and diarrhea predominate. In older children the symptoms are more typical. It is emphasized that symptoms may be absent at any age. Principal manifestations of chronic pyelonephritis are growth failure and anemia.

Accurate studies of the urine are vital in the diagnosis of this disease. Bacteriologic examination must be prompt and include a determination of the number as well as species of the organism. Bacteria counts of 100,000 per ml. of urine is usually taken as the dividing point of significant bacteruria. Counts between

10,000 and 100,000 are suspicious and should be repeated. Clean voided specimens are adequate if done properly. Catheterization should be done only with definite indications and with the knowledge that infection can be introduced by this procedure.

The treatment of acute uncomplicated pyelonephritis results in a cure rate of 80-95 per cent. Treatment of chronic pyelonephritis is difficult and no one method has been accepted. The rate of permanent cure has been reported not to exceed ten per cent. At present it appears that prolonged antimicrobial therapy has the best chance for a more durable cure. The author emphasizes that patients with pyelonephritis in infancy and childhood frequently have further problems in later years. This runs as high as 50 per cent in some series.

EDITOR'S NOTE: It is difficult to abstract even a small portion of the important points emphasized by the author and those interested should read the entire article. This particular volume has other good articles on aspects of renal disease in children.

Pyelonephritis in Infancy and Childhood, Harris D. Riley, M.D., Pediatric Clinics of North America, 11: 731, Aug. 1964.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

The Effect of Total Body Perfusion on Digitalis Tolerance, Nicholas M. Tassopoulos, Glen Cayler, Michael Finnerty, William P. Blaisdell, and G. Rainey Williams, *Diseases of the Chest*, 46: 130, Aug. 1964.

Arteriovenous Fistula of Renal Vessels: Report of a Case Believed to be Congenital and Review of the Literature, LeRoy Long, Hushang Javid, Ormand C. Julian, *Annals of Surgery*, 160: 239, Aug. 1964.

Effects of Manganese on Q-T Interval and Distribution of Calcium in Rat Heart, Loyal L. Conrad and Donald J. Baxter, *The American Journal of Physiology*, 205: 1206, Dec. 1963.

Significance of Antibody to DNA in Systemic Lupus Erythematosus. Salvador P. Casals, George J. Friou and Lynn L. Myers, *Arthritis and Rheumatism*, 7: 379, Aug. 1964.

Abdominal Aortic Grafts, John A. Schilling, Helen M. Shurley, Walter Joel, Betty White, Reagan H. Bradford, *Annals of Surgery*, 159: 819, June 1964.

BOOKS AS CLINICAL TOOLS

CLINICAL REFERENCES IN PULMONARY DISEASE

CHARLES M. HARVEY, M.D.

"From book to bedside and back to book again."—Osler

The medical practitioner who does not have ready access to a medical school or an adequate hospital library, or finds it advantageous to maintain his own bookshelf or reference texts, will wish to include an up-to-date volume on pulmonary disease. One rather complete work of this sort is that of Hinshaw and Garland, the second edition of which was published in 1963.¹ These authors treat the major diseases in a lengthy and detailed fashion and all of the less common disorders are mentioned at least briefly. Anatomy and physiology are covered well and excellent illustrations are included. Other good texts are those of Rubin² and Myers.³

The general medical texts also serve as good references for pulmonary diseases, although the infectious diseases which commonly involve the lungs may be located in other chapters. The presentations are briefer, but the current medical texts such as those edited by Harrison⁴ or by Cecil and Loeb⁵ are amazingly complete in their coverage.

The National Tuberculosis Association makes available to physicians two excellent

small paperback publications which are literally packed with concise, practical information. These are entitled, *Diagnostic Standards and Classification of Tuberculosis*, and *Chronic Obstructive Pulmonary Emphysema*. The first covers anatomy, pathology, psychology, bacteriology, X-ray diagnosis, diagnostic methods, classification, the clinical course of tuberculosis and has a section on extra-pulmonary tuberculosis and another on diseases related to tuberculosis. Even the mycoses are covered briefly. The section on skin testing is particularly good. The other booklet has very practical information on pulmonary function testing which can be done in the office and covers the anatomy, physiology, diagnosis and treatment of emphysema.

These booklets may be obtained without charge by writing The National Tuberculosis Association at 1790 Broadway, New York, N.Y. 10019, or The Oklahoma Tuberculosis Association at 2442 North Walnut, Oklahoma City, Oklahoma 73105. □

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Christmas Factor

JAMES W. HAMPTON, M.D.*

INTRODUCTION

ANTICOAGULANT therapy is frequently complicated by excessive bleeding which frightens the patient and perplexes the physician. The excessive bleeding may present as hematuria or it may present as an obscure clinical picture simulating acute intestinal obstruction or paralytic ileus. Even though the bleeding is invariably associated with reduced prothrombin activity it often persists after the prothrombin time has returned to normal following the administration of vitamin K. A deficiency of Christmas factor (Factor IX) activity which is suppressed by the administration of oral anticoagulants but which is not measured by the Quick one-stage prothrombin test may account for this bleeding.

CASE REPORT

A 31-year-old housewife with thrombophlebitis was hospitalized for seven days. Therapy included Dipaxin (2- [diphenylacetyl] -indane-1:3-dione) and proteolytic en-

zymes. Anticoagulant therapy was continued after the hospitalization. Five weeks later she had sudden severe cramping right lower quadrant pain which persisted for several hours. She consulted a physician who discontinued the anticoagulant therapy immediately. There was no associated nausea, vomiting or diarrhea. Positive physical findings included Temperature 99.6, Pulse 110, hypoactive bowel sounds with rebound tenderness and guarding of the right lower quadrant. The pain was referred to McBurney's point. Admission laboratory work revealed Hgb. 13.9 gms per cent, Hct. 40 per cent, wbc 20, 150/cu. mm. with a shift to the left. Urinalysis detected a trace of protein with 200-300 red blood count/high-power field. Prothrombin time was 85 seconds; control 14 seconds. Therapy included intravenous fluids to which vitamin K analogues were added. The next morning the prothrombin time was 20 seconds; control 12 seconds. After more vitamin K was administered the prothrombin time was corrected to 15 seconds; control 15 seconds. Since the localized pain persisted she underwent an exploratory laparotomy. A large

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Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

hematoma was evacuated between the external oblique and the aponeurosis of the internal oblique muscles in the anterior abdominal wall. The peritoneum was incised and a normal appendix was delivered and removed. The prothrombin time was determined daily. All of the values were within normal limits. Despite this finding an enormous bruise in the area of her incision extending into her right groin and a bruise over her upper ribs was noticed four days later. There was no family history of bleeding and she had three children, including two sons, without a bleeding diathesis. Her past history included a tonsillectomy and two mastoid operations which were not accompanied by hemorrhage.

The results of special clotting studies (Tables 1 and 2) indicated that a clotting

date of confinement was normal. She terminated the pregnancy without any hemorrhage.

DISCUSSION

In 1957 Johnson, Seegers, Koppel and Olwin described reduced Christmas factor (Factor IX) activity in the serum of individuals receiving oral anticoagulants.³ Preliminary work suggested that the responses to the various drugs were different and that phenylindanedione retarded the return of normal Christmas factor activity for as long as 12 days after the drug was discontinued. Dipaxin, the drug used in this case, was given to three patients. No significant changes were noted in their serum level of Christmas factor activity after three weeks of therapy. The reduced Christmas factor accompanying prothrombin depletion agreed with Seegers' modern theory of blood clotting which stated that prothrombin activation gives rise to Christmas factor. Hence, a reduction of prothrombin, the parent molecule, is followed by a reduction of the molecular offspring.⁴ The commonly employed Quick one-stage prothrombin time, fails to detect this deficiency of Christmas factor which is not easily corrected by the administration of vitamin K analogues.

The Lee-White clotting time with silicone-coated tubes was the screening test that first indicated that a defect in the clotting mechanism existed in this patient. The specific deficiency was established with the thromboplastin generation test. Since this patient was not in shock or anemic, blood transfusions were not administered and, therefore, the Christmas factor was not replaced. The lack of a family history of bleeding and the presence of three normal sons serve as evidence against this patient being a heterozygote for Christmas factor deficiency. It is intriguing to note that the factor had returned to normal levels at the termination of the pregnancy. □

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TEST	RESULTS	INTERPRETATION
Platelet Count	200,000/mm ³	Normal
Rumple-Leed	No petechiae	Normal
Clotting Time (Lee-White)	15 mins.	Normal
Clotting Time (Silicone)	88 mins.	Prolonged
Clot Retraction	63 mins.	Normal
Clot Lysis	None in 24 hrs.	Normal
Plasma Recalcification Time	90 secs.	Normal
Prothrombin Time	18/17 secs.	Normal
Prothrombin Consumption Time	55 secs.	Normal
Fibrinogen	764 mgm%	Normal (elevated)

Table 1. Tests of coagulation were initially normal with the single exception of the silicone clotting time.

TEST	RESULTS	INTERPRETATION
Thromboplastin Generation Test*		
All Patient	19 secs.	Prolonged
Control	10 secs.	Normal
Patient's Plasma	11 secs.	Normal
Patient's Platelets	11 secs.	Normal
Patient's Serum	18 secs.	Prolonged
Patient's Serum plus Christmas disease serum (Factor IX deficient)	24 secs.	Prolonged
∴ Serum Defect = Factor IX Deficiency		

*Clotting time recorded is shortest during six minutes of incubation of thromboplastin mixture.

Table 2. Serum defect in thromboplastin generation test was equated to Factor IX deficiency.

defect was present which was localized to the serum in the thromboplastin generation test. A mixture of her serum with the serum from an individual with Christmas factor disease substantiated this defect further.

Monthly injections of vitamin K were continued and six months later measurements of Christmas factor activity were performed after she became pregnant. The results indicated the Christmas defect had persisted. Several hepatic function tests were normal. Bimonthly injections of vitamin K were instituted. A thromboplastin generation test one month prior to the expected

A Summary of the State Regents' Report on Medical Education in Oklahoma

The Oklahoma State Regents for Higher Education this summer completed the most exhaustive study ever made of the University of Oklahoma Medical Center and from the findings drew a blueprint for meeting Oklahoma's immediate and long-range medical education needs and for creating a university health sciences center pre-eminent in the region and nation.

Presented in the 160-page study report are 13 major recommendations and other suggestions for Medical Center improvement, several of which are already being initiated. The report details resources and needs, problems and hopes.

Topping the list of recommendations was the assertion that Oklahoma should move as rapidly as possible toward a more adequate level of financing for medical education.

Another recommendation called for completion as quickly as possible of the master plan for Medical Center development and the writing of a long-range funding program to bring it to fruition.

Stated Chancellor E. T. Dunlap: "... The University of Oklahoma Medical Center must plan and implement changes in the context of a comprehensive, long-range blueprint for medical education which anticipates not only the health manpower requirements but also the quality of professional skills needed to serve a growing and changing society. . . . Oklahoma has the natural and human resources to attain medical care of the highest quality. Rather than be satisfied with mediocre health service, the state should seek to advance it to a level of pre-eminence in the region, and perhaps the

nation. The State Regents have undertaken this Self-Study of the Medical Center as a first step in the accomplishment of this goal, and will continue to work with all interested and responsible groups to insure its attainment."

The voluminous document is the result of a 16-months study coordinated by John J. Coffelt, Ph.D., coordinator of research for the State Regents. Thirty-five faculty members worked on seven research committees that compiled data sought by the regents. Seventeen persons served on the State Regents' Advisory Committee on the study, with John Rogers, Tulsa, as their chairman. General consultant was Norman Burns, Ph.D., Chicago, secretary of the North Central Association.

This is the sixth in-depth report prepared as a part of the comprehensive Self-Study of Oklahoma Higher Education directed by the 28th Oklahoma Legislature.

Noting that "little useful purpose would be served by a report that dwelled only on those programs and practices that are being well done," the report states that "while the general tone of recommendations may appear to be critical, it is self-evident that much real progress has been made and is being made in medical education in Oklahoma."

Submitted as "the first and perhaps the most important general conclusion" of the study is the finding "that despite certain financial limitations, organizational weaknesses, and lack of comprehensive planning, the activities of the Medical Center are essentially sound and of high

quality. The faculty is dedicated to the broad mission of the Medical Center and its members deserve much credit for their past and continuing support of its activities and programs."

Coordinating leadership for carrying out many of the recommendations must be provided by the State Regents, the report states. Others are in the province of governing boards, administrators and the faculty, and still others require attention of the Legislature, the Governor and the people of Oklahoma.

The key recommendations:

1—" . . . that immediate attention be given to raising the level of income available to the Medical Center for the support of its Educational and General Operating budget."

The report points out that without the support of federal and voluntary agencies in the past decade, the Medical Center would not have had the funds to maintain its standards of excellence, adding that: "the temporary nature of such funds suggests the need for the state of Oklahoma to provide a more stable source of funding for its Medical Center."

State Regents have recognized the financial need and recommend to the 30th Legislature a \$4,182,164 increase in the total Medical Center budget, it stated. (The Medical Center's share of the increased appropriation to the State Regents for 1965-66 was \$4,867,307.90, a total increase of \$844,689.)

2—" . . . that the State Regents develop a written policy statement clearly setting forth the functions of the Medical Center and the programs it is authorized to provide, and that this written policy statement be kept up to date as subsequent changes in

functions and programs are authorized by the State Regents.”

At present there is no single source or document that identifies the authorized functions of any of the 18 institutions and seven constituent agencies of the State System of Higher Education, according to the report.

3—“. . . that the faculty and administration of the Medical Center develop a carefully conceived statement of overall objectives with respect to the Medical Center’s basic functions — teaching, research and service—and that appropriate plans be developed for implementing and maintaining this balance.”

Reporting that 74.6 per cent of the 1963-64 operating budget of the School of Medicine was funded by research and training grants (“in a period when the availability of state funds has been inadequate”), investigators held that one consequence had been a subtle shift in emphasis from teaching to research and research training and the diversion of faculty interest away from the care of patients.

“Research and investigation in the field of human biology is the principal means by which the Medical Center fulfills its responsibility for the advancement of medical knowledge,” the report states. “Likewise, research and the practice of medicine are inseparable. . . .”

But, the Medical Center must face the problem of keeping research in balance with other basic functions, the report suggests.

4—“. . . that the Medical Center be developed into a comprehensive educational center for the health sciences, and as rapidly as resources can be made available, its functions and programs be expanded to include a School of Public Health, School of Dentistry and School of Allied Health Sciences.”

The inventory showed that the Medical Center—emerging from a medical school into a true university center for the health sciences—now offers 37 different educational programs. In addition to the M.D. program, these include master’s and

Ph.D. programs, research fellowships, internships, residencies and eight allied health programs.

Instituted as an expedient to developing technicians needed in the University Hospitals, the paramedical programs now should be geared toward meeting the needs of Oklahoma and providing increasing health career opportunities for Oklahoma youth, it was pointed out.

“This function should be formally recognized by the coordinating board, the State Regents, and resources should be made available to the Medical Center for strengthening and expanding these programs,” the report declares.

5—“. . . that the Medical Center complete a master plan for long range campus development as quickly as possible. This plan should set forth the total mission of the Medical Center, identify land needs, provide for the functional location of new space in relation to existing buildings and establish a system of priorities for construction.

“It is further recommended that a long-range capital budget program be developed which, with such federal and other funds as may be available, will enable the Medical Center to acquire needed land, construct needed facilities, and purchase needed new equipment.”

The report commended the Medical Center administration for having launched a master plan program under the guidance of the planning consultants, Lester Gorsline and Associates, and asserted it should be supported in bringing this to a conclusion.

A detailed study of the physical plant was conducted by the Advisory Committee on Physical Plant Needs and, independently, by two consultants—A. L. Pugsley, Ph.D., academic vice-president of Kansas State University, and George T. Harrell, M.D., dean of the Pennsylvania State University Hershey School of Medicine.

Each room in each building of the complex with inventoried. Findings included:

—The Medical Center (consisting of 23 separate buildings and major

additions) occupies a 23.38 acre site, less than half of the 50 acres recommended for a medical center of comparable enrollment.

—45.9 per cent of the square footage was rated of “poor” quality, and 1.6 per cent was described as “unsatisfactory for present use.” Of the total floor space, 31.7 per cent was termed “badly overcrowded” (42 per cent of the medical school building was in this category), and 12 per cent of the total was considered “slightly overcrowded.”

—The total shortage was estimated at 212,867 square feet. It was noted that only 4.9 per cent of the total space is assigned to sponsored research functions, although more than 40 per cent of the total Medical Center income is from that source.

The report contains this observation: “New programs have been added and existing ones expanded until currently every square foot has been pressed into use: The gross inadequacies of the physical plant have become almost intolerable. Until additional physical plant space can be obtained, the Medical Center will need to limit further expansion of existing programs and enrollments and the addition of essential new programs.”

6—“. . . that the organizational structure of the Medical Center be revised to conform with accepted management principles.”

Points of criticism included these: The “unity of command” principle is violated in that the business manager is operationally responsible to the OU vice-president for finance, and the associate dean of the Graduate College, to the dean of the OU Graduate College, and not to the Dean and Director; the number of subordinates reporting directly to the Dean and Director is too large—a total of 35 to 40 persons.

Another area of concern listed is the title of the “Director of the Medical Center.” It states: “While his position and responsibilities are parallel to those of the three vice-presidents on the main campus of the University of Oklahoma, his title does

(Continued on Page 387)

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not connote this fact. The magnitude of the responsibility resting upon the shoulders of the Director of the Medical Center, plus the fact he reports directly to the President of the University suggests that the position should carry a title parallel to that of the vice-presidents."

The report recognized that steps are now being taken by James L. Dennis, M.D., dean and director, to reorganize the administrative structure.

The offices of business administrator of the Medical Center and administrator of the University Hospitals have been separated, as suggested in the report. Also, the position of associate director of the Medical Center has been created and filled.

7—" . . . that the State Regents define the budget needs in a single unit for the Medical Center, both for current operations and capital improvements, and that funds be allocated accordingly, effective with the 1965-67 biennium."

This recommendation already has been followed by the State Regents and the Medical Center administration is in the process of revising the budgetary system in keeping with the directive.

The study group held that the activities and programs of the medical school and the hospitals are so interrelated that it is inappropriate to treat them as separate constituent agencies; that the two-budget system reduced flexibility, since funds allocated to one unit could not be transferred to the other.

"The function of the University Hospitals is primarily that of a laboratory for the training of competent physicians and other health related personnel, and secondarily a service facility for indigent patients," it was emphasized.

8—" . . . that the present policy of the Medical Center for handling professional income from welfare patients and certain other patients with prepaid medical benefits be clarified in terms of whether it is personal income or is Educational and General Budget income."

Under the present "geographic full-time" faculty policy, faculty members may supplement their income via private practice up to an amount equal to their salary.

By faculty agreement, income for professional care from welfare agencies and similar prepaid medical sources is deposited into the "University of Oklahoma Medical Center Departmental Trust Fund" and used to supplement the department's state budget.

This practice was cited as having been the most important single instrument in achieving quality in the face of inadequate state support, and the report asserts, "It is evident that without these funds the growth of the Medical Center in the past decade would not likely have occurred."

9—" . . . that the Medical Center move toward a 'strict full-time' faculty appointment plan. It is further recommended that faculty salaries adopted by the regents in developing the Medical Center budget recommendations be competitive with medical schools in the region which have comparable faculty salary plans."

Although faculty members theoretically may earn an amount equivalent to their salaried income, the report points out, "opportunities do not permit them to do so" and as a consequence the average annual income of full-time faculty members is substantially below comparable regional and national figures.

The report further states: "The faculty should continue to have the opportunity to see private patients, but once a strict full-time faculty plan is adopted, such income should accrue to the Medical Center under an appropriate policy for handling it."

10—" . . . that the administration of the Medical Center, in cooperation with the State Regents' staff, conduct a systematic study of faculty work loads and performance, and that such data be used to arrive at a meaningful definition of full-time faculty."

"A 'hard core' of full-time faculty members is essential to the operation of a high quality medical center," it was concluded.

The report said it appears the Medical Center may be understaffed by as many as 34 full-time faculty members but went on to explain that such estimates are difficult on the basis of available data. It called for an immediate study of the problem of determining full-time faculty needs including methods of measuring the proportion of individual effort devoted to medical research, to patient care and non-instructional activities.

11—" . . . that the faculty at the Medical Center be extended the same staff benefit programs as those made available to the faculty on the main campus of the University of Oklahoma."

The only present benefits are a faculty retirement plan and an accidental death and dismemberment plan in the amount of \$10,000. Benefits on the Norman campus include group hospitalization and major medical coverage, accident insurance and life insurance.

12—" . . . that the Medical Center be encouraged to study (a) the health science personnel needs of the state; (b) a means of preparing physicians to provide family medical care, and (c) the best means for the 'packaging and delivery' of health care in both urban and rural communities."

Doctor Dennis has launched "Project Responsibility," goals of which are much the same as those set forth in this recommendation. A first phase, now getting under way, is an inventory of personnel resources and needs.

13—" . . . that the fiscal budgeting and accounting procedures of the Medical Center be carefully reviewed and re-structured in order to permit a more meaningful analysis and reporting of income and expenditures; and in order to achieve a more functional operating budget for the institution."

It was suggested that although the functions, programs and activities of the Medical Center differ in many respects from those of other educational institutions in the State System, functional and object classifications should be similar insofar as is possible. □

Arrowhead Lodge to Host Statewide PG Course

Much enthusiasm is being generated by physicians across the state over the all-day postgraduate education program, scheduled for Arrowhead Lodge on September 19th.

The theme for the Sunday scientific program is "Clinical Considerations in Allergy and Infections." The session will open with registration at 9 a.m. The program will run from 10 a.m. till 4 p.m., followed by a social hour and an informal discussion of topics with the speakers.

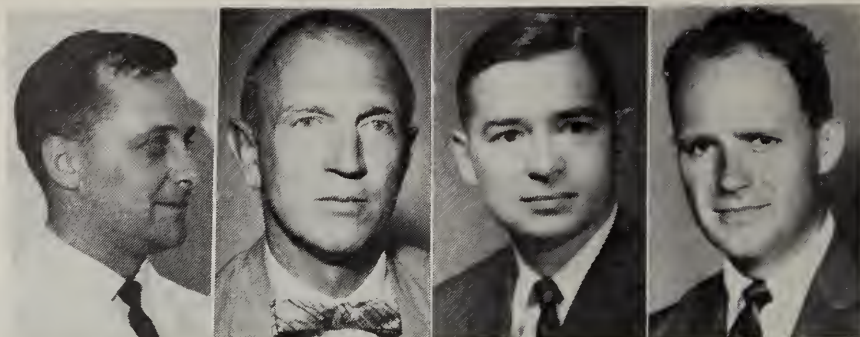
Many physicians are indicating their interest and intention to attend on the basis of the event presenting an unusual opportunity for them to bring their families and combine business with pleasure, particularly since complete recreational facilities are available. The facilities include a nine-hole golf course, fishing, water sports, swimming pool, horseback trips to scenic, historic sites.

Registration fee for the September 19th course is \$12.50, which includes the scientific program and buffet luncheon. The social hour will be sponsored by Massachusetts Mutual Life Insurance Company.

Program

The following program has been planned for the September 19th meeting at Arrowhead Lodge:

- 9:00 a.m. REGISTRATION—Coffee
Presiding: Rex E. Kenyon, M.D.
10:00 a.m. INFECTIONS OF THE FEMALE REPRODUCTIVE SYSTEM
James A. Merrill, M.D.

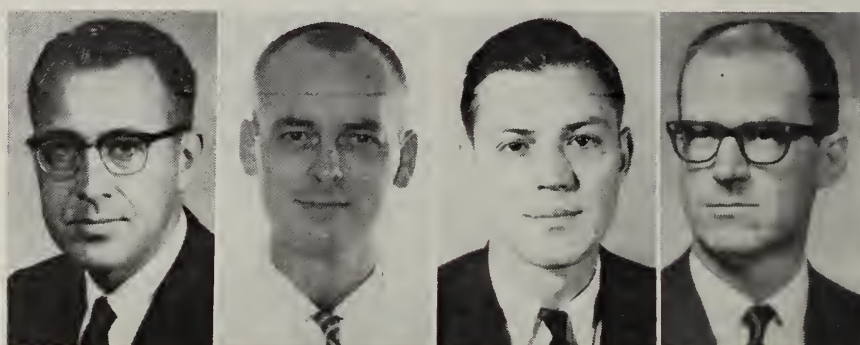


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10:30 a.m. PRESENT DAY ROLE OF THE SURGEON IN MANAGEMENT OF INFECTIONS
John A. Schilling, M.D.

11:00 a.m. INFECTION IN RESPIRATORY ALLERGY
Lyle W. Burroughs, M.D.

11:30 a.m. ALLERGIC EMERGENCIES
Robert S. Ellis, M.D.

12:20 p.m. Lunch
Presiding: S. N. Stone, M.D.

1:40 p.m. SOCIO-ECONOMIC INFECTIONS
Rex E. Kenyon, M.D., President Oklahoma State Medical Association

2:00 p.m. ALLERGIC REACTIONS TO ANTIBIOTICS
Lewis R. Beam, M.D.

2:30 p.m. OFFICE MANAGEMENT

OF EAR, NOSE AND THROAT INFECTIONS

James B. Snow, Jr., M.D.

3:00 p.m. BLOOD REACTIONS TO INFECTIONS
Richard A. Marshall, M.D.

3:30 p.m. GENITO-URINARY TRACT INFECTIONS
William L. Parry, M.D.

4:00 p.m. SOCIAL HOUR—With informal discussion of topics with the speakers

Reservations

Special invitations were mailed to all OSMA members on August 13th. Registration can be made by mailing a check in the amount of \$12.50 to the OSMA Executive Office. Lodge accommodations can be made by writing Arrowhead Lodge, Canadian, Oklahoma. □



Trustees Finance Health Economic Survey

A financial commitment for a state-wide health economic survey, approval of the association's financial audit, travel insurance for OSMA representatives, and non-participation in the Medicare Law, were among the subjects considered by the Oklahoma State Medical Association's Board of Trustees on August 1st.

Health Economic Survey

The principal reason for calling the special session of the Board was to implement the health economic survey project previously authorized by the House of Delegates in May. A commitment of \$3,948 was approved as the association's contribution to the first phase of the survey, a program which is to be jointly sponsored by the Oklahoma Hospital Association and Blue Cross-Blue Shield.

The survey project was conceived last Spring by the Prepaid Medical Care Committee. It was pointed out that over 50,000,000 Americans are eligible for some form of government-paid health care benefits, amounting to a financial outlay of more than one-fourth of all health care expenditures in the nation. In view of such large-scale intervention into the health care field, the committee proposed that a major effort be undertaken to study the health economic scene in Oklahoma and to develop new programs to preserve the voluntary prepayment system insofar as possible.

"A program must be developed," the committee said in its report, "... which will provide high-quality health care protection to all citizens of various economic strata. Voluntary prepayment plans must develop new programs and innovations with which to assure responsibility for a majority of the populace; government's role must be limited to assisting those persons unable to help themselves; the providers of services must invoke new and improved economy measures.

"Through a combination of offering excellent prepayment programs

to the majority of the population at economical prices and an intensive, continuing health economic education program, it can and must be demonstrated to the public that free enterprise can perform more efficiently than the government in the health care field."

The survey will entail a study of the quantity and quality of prepaid health insurance (and government programs) now held by various classes of the population, and the final recommendations will include plans to strengthen the quality and broaden the scope of enrollment in prepaid programs. All recommendations will be submitted to the OSMA's House of Delegates when the survey is completed.

A "Task Force" will manage the survey project, to be comprised of representatives from the three principal sponsoring organizations and public representatives appointed by the Governor. The OSMA has named B. C. Chatham, M.D., Chickasha, (chairman of the Task Force), Tom C. Points, M.D., Oklahoma City, and Hayden H. Donahue, M.D., Norman, as its three representatives. Richard Luttrell, Norman, and James Harvey, Tulsa, will represent the Oklahoma Hospital Association. Blue Shield representatives and the gubernatorial appointments are yet to be named.

Oklahoma State University will supply the research staff for the survey, having named Ansel M. Sharp, Ph.D., as the principal investigator.

The program is planned in three stages, but only the first phase (a six month's study) has been approved by the sponsors at this point.

Audit Report

Lewis C. Taylor, M.D., Trustee and member of the Audit Committee, presented a detailed audit of the association's financial operations for the fiscal year of 1964-65, and the Board approved it for distribution to the entire House of Delegates.

The report revealed a net worth of \$186,639.86, but showed a net operational deficit of \$2,796.29 for the past year. Doctor Taylor explained that the deficit resulted from with-

drawing savings for special projects, and these withdrawals were reflected in the financial statement as unbudgeted expenses.

Travel Insurance

The Trustees approved the purchase of a \$25,000 accidental death policy to protect all physicians and headquarters staff personnel who travel on the official business of the association. In addition to insuring physicians who travel out-of-state as OSMA representatives, doctors who serve on the Board of Trustees, House of Delegates, and on association committees will also be protected as they travel to and from official meetings within the state of Oklahoma. The Insurance Company of North America will be the underwriter.

Non-Participation

It was tentatively agreed that a special session of the association's House of Delegates will be called by the president in September or October for the purpose of voting on the issue of non-participation in the government's Medicare Law. At last May's annual meeting of the Delegates, action on a resolution calling for non-participation was deferred until such time as Medicare received Congressional approval.

In preparation for the policy-making session, the Board of Trustees instructed the president to request special meetings of all county medical societies for the purpose of having a full discussion of the pros and cons of non-participation before their delegates are sent to the special meeting.

On the same agenda for the House of Delegates meeting will be the consideration of a completely revised constitution and bylaws for the OSMA. The document will be mailed to all delegates in advance of the special session.

Other Business

In other actions, the Board of Trustees:

- Authorized the association's two Delegates to the American Medical Association to sign a petition requesting a special session of the AMA's House of Delegates to vote on

the non-participation resolution at the national level.

- Instructed the OSMA Executive Office to mail a dues statement on behalf of the Oklahoma Medical Political Action Committee to all association members (payment to be voluntary).

- Advised the president that all physicians who are delinquent in payment of the \$15.00 special assessment are to be suspended from membership in their county medical societies, the OSMA, and the AMA (in keeping with the July 1st deadline imposed by the House of Delegates).

- Heard a report from Paul A. Bischoff, M.D., Tulsa, Chairman of the Prepaid Medical Care Committee, that a confidential survey of charges ("Operation SOC") will be conducted by his committee in connection with the Health Economic Survey of the state.

- Authorized the Council on Professional Education to invite doctors of osteopathy on an individual basis to write for a schedule of the OSMA's postgraduate education television series.

- Learned from C. Riley Strong, M.D., El Reno, Chairman of the Crippled Children's Study Committee, that \$636,000 is available from the Department of Public Welfare to improve the fee schedule for the care of indigent adults, or to possibly initiate payment for professional services to Crippled Children.

- Awarded 50-Year-Club pins to C. E. Northcutt, M.D., and R. B. Gibson, M.D., both of Ponca City. □

Red River Valley Conference In September

Lake Murray Lodge, near Ardmore, will once again be the site of the Annual Red River Valley Con-

ference to be held this year on September 12th, 1965. This will be the twelfth annual conference sponsored by the Oklahoma Chapter of the American Academy of General Practice.

Three outstanding guest speakers will be featured on this year's program. Their topics will be "Renal Function," "Ophthalmoscope," and "Fluid and Electrolyte Balance."

All medical doctors from Oklahoma, Texas and Arkansas are cordially invited to attend this one-day event. In addition to the scientific program, the lodge offers excellent recreational facilities for families of attending physicians. A landing strip adjacent to the lodge will be an attraction for flying physicians.

Both husbands and wives are invited to a social hour which will precede the meeting on Saturday evening from 7:00 to 9:00 p.m.

There is no registration fee for the program. □



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State Legislature Commends Physicians

Shortly before the close of the Thirtieth Session of the Oklahoma Legislature, lawmakers of the Senate and House of Representatives commended the Oklahoma State Medical Association and the Oklahoma Chapter of the American Academy of General Practice on their providing a physician daily to care for the medical needs of the legislature and its employees.

Working hand-in-hand, the OSMA and the Academy of General Practice supplied a physician each day the legislative body was in session. Moreover, a treatment room in the Capitol Building was made available to the physicians and was fully equipped by the Academy and the OSMA in order to provide routine and emergency treatment.

Resolution

House Resolution No. 640 and Senate Resolution No. 90 were approved by the respective houses on July 7th. The text, commending Oklahoma physicians for their service is identical in both resolutions.

Authored by each and every member of the House and Senate, the content of House Resolution No. 640 and Senate Resolution No. 90 reads as follows:

A RESOLUTION COMMENDING THE OKLAHOMA STATE MEDICAL ASSOCIATION AND THE OKLAHOMA ACADEMY OF GENERAL PRACTICE FOR PROVIDING PHYSICIANS FOR THE THIRTIETH SESSION OF THE OKLAHOMA LEGISLATURE; RECOGNIZING THE SERVICES RENDERED BY THESE PHYSICIANS; DIRECTING JOURNAL ENTRY; AND DIRECTING DISTRIBUTION OF THIS RESOLUTION.

WHEREAS, the Oklahoma State Medical Association and the Oklahoma Academy of General Practice provided physicians for the Thirtieth Session of the Legislature of the State of Oklahoma; and

WHEREAS, the services rendered by these physicians to the Honorable Members and employees of this Sen-

ate have been a credit to their noble profession; and

WHEREAS, this Honorable Body values highly the graciousness of the Oklahoma State Medical Association and the Oklahoma Academy of General Practice in providing such distinguished physicians.

NOW, THEREFORE, BE IT RESOLVED BY THE SENATE OF THE THIRTIETH LEGISLATURE OF THE STATE OF OKLAHOMA:

SECTION 1. That the Members of the Senate hereby extend to the Oklahoma State Medical Association and the Oklahoma Academy of General Practice their appreciation for providing physicians for the Thirtieth Session of the Oklahoma Legislature.

SECTION 2. That duly authenticated copies of this Resolution be forwarded to the Oklahoma State Medical Association and the Oklahoma Academy of General Practice as a token of the sentiment herein expressed and that it be spread on the permanent Journal of the Senate of the Thirtieth Session of the Oklahoma Legislature. □

Medical Assistants Convene in Oklahoma City

Forty members of the Oklahoma State Medical Assistants Society, Inc. attended a "Leadership Training Seminar" sponsored by the American Association of Medical Assistants, July 10th - 11th, 1965. The seminar was conducted by Mrs. Judy Coleman, Dallas, immediate past-president of the AAMA.

The program, offered for the purpose of demonstrating effective and proven methods for successful organizational work, emphasized guides to state chapters in programming educational series; the development of better communications between chapters and individual members; the creation and promotion of a favorable organizational image; and, avenues for chapter growth, increasing and solidifying membership.

Board Meets

Following the Leadership Training Seminar, an Executive Board meet-

ing was called by state chapter president Mrs. June Delozier, Bartlesville.

Mrs. Lucille Swearingen, Bartlesville, was elected chairman of the Nominations Committee for 1966. Other committee members include Mrs. Veronica O'Brien, Oklahoma City, Dorothy Rueb, Tulsa, Ann Strowbridge, Oklahoma City, and Zoe Gibberson, Lawton.

The 1966 convention of the group will be held in Lawton, with the Southwest County Medical Assistants Society serving as the host chapter. Mrs. R. W. Easley, Lawton, is convention chairman.

Guy Fuller, M.D., medical advisor to the organization, attended the Executive Board meeting. □

Ethics, Professionalism Subjects of AMA Congress

The American Medical Association will sponsor a National Congress on Medical Ethics and Professionalism at the Drake Hotel in Chicago, October 2nd-3rd.

The conference, first-such meeting sponsored by AMA, will provide an opportunity for members of the profession to exchange ideas on ways to emphasize the concern of all physicians with the high standards of conduct traditionally associated with medicine.

Among the meeting highlights will be an address by James Z. Appel, M.D., AMA president, on the subject "Medicine, a Profession or a Business?"

Another speaker will be Walter H. Judd, M.D., former U.S. Congressman and currently a member of AMA's Judicial Council, who will discuss the accomplishments and deficiencies in the medical profession's standards for ethical deportment at a Saturday luncheon.

Other speakers will discuss such subjects as "Professionalism, a Trust in Perpetuity," "When Ethics and Welfare Programs Clash," "What is Your Ethical I.Q.?" and "Can Ethics be out of Tune with the Times?"

Saturday's afternoon sessions will consist of workshops on grievances

and medical disciplinary procedures. The workshop format will permit each registrant to join a small group for a more effective exchange of information on procedural techniques and experiences. Workshop subjects include:

—Appeals to State Ethics Boards and to the AMA Judicial Council.

—Medicine and the Law.

—Medicine and Pharmacy.

—Interpretation of Unethical Conduct by Local Standards.

Advance registration forms and additional information about the conference may be obtained by writing James H. Berge, M.D., chairman, Judicial Council, American Medical Association, 535 North Dearborn, Chicago, Illinois 60610. □

Finances Increased for Medical Examiner System

Oklahoma's 1965 legislature appropriated \$150,000 for the biennium to the Board of Unexplained Deaths, thus providing the most generous financial support for the state's medical examiner system since its inception in 1962.

The increased appropriation will enable the Board to employ a full-time forensic pathologist as State Medical Examiner. In the past, inadequate financing has made it necessary for the program to be administered through the volunteer efforts of private physicians and as an additional duty for F. R. Hassler, M.D., Director of the State Department of Health Laboratories. W. Floyd Keller, M.D., Oklahoma City pathologist, served without pay for two years as state examiner and he was succeeded in 1964 by another Oklahoma City pathologist, Raymond F. Hain, M.D.

Members of the Board of Unexplained Deaths believe that the hiring of a full-time forensic pathologist will enable the program to function as a true medical examiner system rather than as an autopsy service. The salaried pathologist, who will be associated with the Department of Pathology of the medical school in connection with his appointment as

State Medical Examiner, will have time to develop educational programs and provide more counselling and guidance to the county examiners.

Efforts are now being made to contact and interview forensic pathologists who are interested in the new full-time position.

Background of Program

When the Medical Examiner Law was passed by the legislature in 1962, it abolished the antiquated coroner system in favor of the medical examiner program. The purpose of the law is to establish on the basis of medical findings the cause of death from all homicides, suicides, accidental and other deaths where a physician is not in attendance at the time of death. In addition to providing for the investigation of deaths occurring under suspicious, unusual, or unnatural circumstances, the law also covers deaths related to diseases which might constitute a public health hazard.

The Board of Unexplained Deaths is comprised of the State Commissioner of Health, the Dean of the University of Oklahoma School of Medicine, and the Chief of the State Bureau of Investigation. Duties of the Board are:

1. To appoint physicians as county medical examiners, one or more in each county.

2. To arrange for pathological services for autopsies or post-mortem examinations, when such services are indicated or requested by the medical examiners or law enforcement agencies.

3. To promulgate rules and regulations for administration.

4. To keep accurate reports and records, and to approve claims for payment to pathologists, county medical examiners, and for other authorized expenditures.

5. To provide around-the-clock telephone service and consultation for county medical examiners, pathologists, county attorneys, and other law enforcement agencies.

6. To provide laboratory services for the examination of toxicological specimens, blood and body fluid ex-

aminations, tests for poisons, drug identifications, and blood alcohol and carbon monoxide determinations.

The following table shows the number of examinations made by medical examiners, the number of autopsies, and the number of laboratory specimens examined under the program since its inception.

	1962	1963	1964
Medical Examiner Cases	1214	1485	1786
Autopsies	135	139	168
Laboratory Specimens	207	363	390

The state has been divided into seven regions, with a pathologist serving as regional state medical examiner in each area. County medical examiners (there are 142 serving now throughout the state) consult with the regional pathologist and arrange for autopsies or other examinations when needed.

Prior to the 1963 legislature, no operational funds were appropriated, and most physicians participating in the program did so without pay (some received county funds). An appropriation of \$42,000 a year in 1963 and 1964 enabled the Board of Unexplained Deaths to pay \$10 per case to the county medical examiners, and to pay pathologists for their services (with the exception of one three-month period when funds were depleted and the pathologists contributed their services).

However, the appropriation was insufficient to hire a full-time director.

Toxicology and laboratory services for the medical examiner program have been provided on a coordinated basis by the health department, the Oklahoma Poison Information Center, and the State Bureau of Investigation.

1965 Amendments

Besides providing an increased appropriation, the 1965 legislature amended the Medical Examiner Law in two respects. In the first place, county medical examiners are now permitted to hold additional public offices. Secondly, the county medical examiner is authorized to collect blood, fluid or body waste specimens as required to carry out his duties, without the necessity of obtaining an autopsy permit. □

Dennis Named To AMA Post

James L. Dennis, M.D., dean and director of the University of Oklahoma Medical Center, was named chairman of the Section on Pediatrics of the American Medical Association during AMA's June convention in New York.

Doctor Dennis was vice-chairman of the section last year and served as secretary from 1960 to 1964.

Present secretary is another graduate of the OU School of Medicine, Theodore R. Pfundt, M.D., former OU medical faculty member now at Baylor University College of Medicine, Houston.

Doctor Dennis also was re-elected to the AMA Council on Scientific and Postgraduate Programs. □

Infant Deaths Reduced

Infant deaths in the U.S. were at a record low last year.

The rate was 24.2 deaths per 1,000 live births, four per cent below the 1963 rate and 17 per cent under the rate in 1950.

To continue this record of improvement, the AMA recommends the following "primary" measures:

- Improve methods of early identification of "high risk" mothers.
- Identify all "high-risk" newborns.
- Improve infant resuscitation techniques.
- Reduce infections in newborns by known methods.
- Extend the present "know how" on the care of premature infants.
- Evaluate present prenatal-care facilities and practices at the local level and institute remedial measures wherever necessary.
- Promote participation in prenatal and expectant-parent classes and prenatal clinics.
- Use caution in prescribing diagnostic x-ray procedures and drugs for potential mothers.
- Discuss contraception and family planning practices routinely with patients in mutually acceptable terms.
- Extend postgraduate education programs in obstetrics and pediatrics. □

OSMA Membership Directory

The 1966 edition of the OSMA membership directory will be issued in the early Fall of 1965, according to Don Blair, Executive Secretary.

As in the past, the publication will contain both an alphabetical listing of the entire association membership, plus a breakdown of the membership by county of residence. The alphabetical list will contain biographical information, addresses, and telephone numbers.

The publication will be financed by advertising from suppliers and clinics. Deadline for advertising is August 26th. □

DEATHS

J. V. ATHEY, M.D.
1872-1965

A 93-year-old Bartlesville physician, J. V. Athey, M.D., died in Bartlesville July 5th, 1965.

A native of West Virginia, Doctor Athey graduated from the Eclectic Medical Institute, Cincinnati, Ohio in 1899. His original practice was established in Balpre, Ohio. In 1908 he came to Bartlesville where he practiced for 45 years.

Doctor Athey was active in the medical profession having served several terms as secretary and president of his county medical society in addition to a four-year term as Councilor of the state medical association.

In 1948 Doctor Athey was made a Life-Member of the Oklahoma State Medical Association in recognition of his loyal service to his profession and to humanity.

BILL J. SIMON, M.D.
1924-1965

A Perry physician for 16 years, Bill J. Simon, M.D., died in Perry June 27th, 1965.

A native of Alva, Oklahoma, Doctor Simon graduated from the University of Oklahoma School of Medicine in 1947. After taking his residency at Wesley Hospital in Oklahoma City, he moved to Perry where his practice was continuous except for two years of service with the Army Medical Corps. □

BOOK REVIEWS

CONTROL OF GLYCOGEN METABOLISM. Ciba Foundation Symposium. W. J. Whalen, Ph.D., D.Sc., F.R.I.C., Consulting Editor, and Margaret P. Cameron, M.D., Editor for the Ciba Foundation, 434 pp., with 72 illustrations. Boston: Little, Brown and Company, 1964. \$12.50.

The Ciba Foundation Symposia have developed a reputation for excellence and the current volume stands in good stead. It is timely and deals with a subject in which dramatic advances have been made in the recent past. Twenty-seven of the world's leading authorities on glycogen metabolism have contributed monographs dealing with various aspects of the general subject. These have been arranged in three general sections: A. Basic Processes of Glycogen Metabolism, B. Control of Glycogen Metabolism, and C. Glycogen Storage Diseases. While the publication is not a didactic text, the subject is well covered in breadth as well as depth. The inclusion of the discussions of the individual presentations is an attribute.

This Symposium will be of interest to biochemists, physiologists, biologists and physicians as a reference source of some depth. The section on Glycogen Storage Diseases will be of particular interest to the physician, since it does an excellent job of conveying the current concept of these diseases with an emphasis on the biochemical abnormalities.

Those who have not considered the area of glycogen metabolism in the past few years will be amazed by the extent of recent advances made in the field. Of particular note is the new information about the difference in enzyme pathways of biosynthesis and degradation of glycogen, and the mechanism(s) of action of hormonal control over glycogen metabolism and its relationship to glucose regulation.

This volume should be kept in mind as an authoritative current source of information on most any aspect of glycogen metabolism. — J. Rodman Seely, M.D., Ph.D. □

MANAGEMENT OF THE PATIENT WITH SUBNORMAL VISION. By Gerald Fonda, M.D., Associate Clinical Professor of Ophthalmology, New York University School of Medicine. First edition, cloth, 161 pp., with 88 figures. St. Louis: The C. V. Mosby Company, 1965. \$11.00.

This new addition to the ophthalmic literature is written by an ophthalmologist who has a well known interest in people with subnormal vision.

The author begins by discussing the definitions of blindness and those

eye diseases which are favorable and unfavorable for correction of subnormal vision. In general, those people with severely constricted fields are not amenable to help with low vision aids. It is also emphasized that the use of Braille should be discouraged in favor of type reading whenever possible.

Five chapters are devoted to a classification of optical aids used in correction of subnormal vision. Each aid is discussed in detail both from a practical standpoint as well as the basic optical theory. The author generally discourages the use of telescopic aids, previously so highly tout-

ed, but he is enthusiastic about the spectacle magnifier.

Following the chapters on visual aids the author outlines his method of examining patients with subnormal vision and discusses their care.

At the end of the book there is a list of 38 practical questions with answers on the subject of low vision aids. These questions in effect summarize much of what is said in the book and are a helpful review.

The book is recommended because it is informative, reads well and expresses opinions of the author derived from actual experience.

David W. Bishop, M.D. □

Miscellaneous Advertisements

OPENING for top general practitioner to join our active group of general practitioners in a progressive community in southern Oklahoma with a population of 25,000 plus. This group owns a new hospital facility of 70 beds. This group practices as a group for coverage purposes, etc., but each physician is financially independent of the others as far as his office and practice are concerned. Contact Key Q, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED: Staff physicians (3). General practitioners 45 or under to assist attending staff and general practice residents in 260-bed general hospital. Annual appointment preferred. \$15,000-\$17,500 depending on training and experience. Contact Medical Director, San Luis Obispo General Hospital, San Luis Obispo, California. Phone 805-543-1500.

MISSIONARY-PHYSICIAN is badly needed for new hospital to be opened in February, 1966 on Little Diomed Island off the west coast of Alaska. Anyone interested may secure further information by contacting A. C. Hirshfield, M.D., 908 N.W. 50th, Oklahoma City.

GENERAL PRACTITIONER — salary leads to full partnership opportunity in 26 bed Clinic-Hospital. Ideal practice conditions in irrigated area with substantial industry. Write Box 97, Seagraves, Texas.

PARTNER WANTED: GP or surgeon to join three doctors. We own our clinic building and equipment located only three blocks from modern hospital operated by the Felician Sisters. Excellent salary first year with full partnership at the end of one year to compatible, competent M.D. Contact the Neumann-Ottis Clinic, Okarche, Oklahoma.

FOR RENT: 1,000 square feet of office space to rent September 1st in Medical Center area, Oklahoma City. Also 100 Milliamp General Electric X-ray machine with all attachments. 511 N.W. 11th. CE 6-8401.

THE CHICKASHA CLINIC has an immediate opening for a board certified or qualified internist. This is an excellent opportunity for a young man as it leads to an associateship in the medical practice of the clinic with no investment. Interested persons should contact Jim Loy, clinic administrator, or Bill McDoniel, M.D., Chief of the clinic staff. Phone CA 4-4853.

WANTED: Internist, board eligible or certified to be associated with twelve-man specialty group, salary open, no investment, early partnership, city of 35,000. Write J. D. Wilson, M.D., King's Daughters Clinic, Temple, Texas.

FOR SALE, 1963 red super-sports Chevrolet Impala. Bucket seats, air-conditioned. Owned by the late Peter E. Russo, M.D. Call Greenfield 8-0820.

ENERGETIC GP for associate in Northeastern Oklahoma Clinic. New hospital available, operated by Baptist General Convention. Contact W. A. Cotner, M.D., Grove Clinic, Grove, Oklahoma.

PHYSICIAN WANTED to work full-time in university health work at Oklahoma State University, Stillwater. Excellent working conditions, regular hours, and many extra benefits. Contact Donald L. Cooper, M.D., Director, Student Health Service, Oklahoma State University, Stillwater, Oklahoma.

EXCELLENT opportunity to combine private practice with eight hour, five-day week emergency room coverage in modern, exceptionally well-equipped general type hospital. For further information contact Administrator of Hillcrest Medical Center, Tulsa, Oklahoma.

WANTED physician to take over well-established general surgery practice. Central location near all hospitals. For further information, contact Key P, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

FOR IMMEDIATE SALE, deceased physician's practice, office building and equipment, including surgical instruments, located at Perry, Oklahoma, population 5,000, trading area, 10,000. May consider long term lease. Write to Mary Louise Simon, Administrator, 1218 East Rainbow Drive, Perry, Oklahoma.

Tuberculosis, A Continuing Problem

IN JUNE, the House of Delegates of the AMA made an important statement on tuberculosis control. The declaration takes official recognition of tuberculosis as a significant continuing health problem. Here is the full statement:

"Tuberculosis remains a significant health problem in the United States, causing much suffering, many deaths, national, local and individual economic loss, and risk of infection and disease to all of the people.

"Although there have been great advances in the treatment of, and an encouraging decrease in the death rate from, tuberculosis, the incidence of reported new cases has not diminished as much as is believed to be within our means.

"Current scientific knowledge justifies a rate of less than one per cent of positive tuberculin reactors among children 14 to 16 years of age. Even eradication is not impossible.

"The AMA through appropriate channels should promote, among the medical profession and the general public and within health organizations, increased recognition of tuberculosis as a continuing major health problem in the United States. The AMA should encourage greater utilization of all available measures to reduce the incidence of tuberculosis until such time as the disease may be eradicated or brought under optimum control."

Here in Oklahoma we are quite aware of this problem. In 1962 disturbing figures began to appear. The number of new active cases were increasing (1961—465; 1962—513; 1963—584; 1964—560). This rising tuberculosis morbidity was being encountered in other parts of the country. The Surgeon General took recognition of the lag in control efforts and appointed a Task Force

on Tuberculosis. Their report in 1961 led to a resurgence of interest and effort. Additional funds were made available through the Public Health Service and the states.

A special program in Oklahoma was begun in April, 1964. Its aim was to strengthen case detection and treatment programs in ten rural counties (Adair, Caddo, Cherokee, Delaware, Hughes, LeFlore, McCurtain, Mayes, Ottawa, and Seminole). The program was expanded to include Oklahoma County in January, 1965 and Tulsa County in August, 1965.

With the help of additional nurses and clerks, the program in these counties is being improved. As a result, for example, the number of positive sputum cases at home has dropped sharply. There are two particular areas that are emphasized. The first is to do a thorough and continuing follow-up of known cases and their contacts. This involves detailed investigation and record keeping. A second major effort is the annual testing of all school enterers and 14-year-olds along with the school personnel. Here the case detection effort is child oriented rather than adult oriented as it has largely been in the past. This part of the program was started in February, 1965 and is being conducted not only in the project counties, but in most of the counties with health departments. The positive tuberculin rate is low (0.7 per cent for first graders, and 2.4 per cent for 14-year-olds) but the source cases can usually be uncovered and the household spared from further infection.

During the coming year more schools will be reached. Our goal is to bring the 14-year-olds reactor rate below one per cent by 1970. I believe this can be attained if apathy and indifference does not overtake us again.

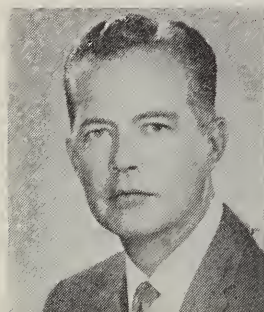
This program and information is being supported and disseminated by the Oklahoma Tuberculosis Association and the Oklahoma Thoracic Society. □

Richard M. Burke, M.D.

Consultant and Head

Tuberculosis Section

Oklahoma State Department of Health



In a nation as wealthy and powerful as ours, there is no real excuse for poverty and squalor. In a land of unlimited educational opportunity, there is no reason for our youth to reach maturity with inadequate skills or training to earn a decent living. In a country which abounds in opportunity and the promise of accomplishment, there is no explanation for delinquency and crime.

These statements would seem to echo the sentiments of White House releases issued during the past several years . . . and no reasonable citizen can, in good conscience, find any significant areas of disagreement . . . to this point! Those of us who subscribe, however, to the philosophy that "best government is LEAST government" find our differences not in the *statement* of the problem, but in the method of *solving* it!

For, on Capitol Hill such a pronouncement usually serves as a preamble for a new tax-supported welfare program; and the resulting legislation has been passed with amazing efficiency. How much better if a solution could be found on a local level, through private enterprise, with personal leadership, financed through *voluntary* contributions. Perhaps we are partly to blame . . . we champions of the free enterprise system . . . because we have failed to eradicate those conditions which now form, with fanfare and spotlight, the basis for our growing welfare state.

And, as we watch the rapidly expanding frontiers of welfare, many of us ask, with a concern bordering on terror . . . "WHY?"

The reply from our Government-of-the-People comes coolly and evenly "In answer to need . . . this legislation was designed to fill a void!" I know this response only too well; for I have debated several adherents of the so-called liberal philosophy. Afterwards, I have talked with them intently, but more informally, until the wee hours of the morning. And, even while contending that the need . . . the void . . . had been grossly exaggerated, I have had to admit, on occasion, that areas of unmet need did indeed exist . . . and that little was being done, through private effort, to eliminate them. (Permit me to say now . . . to

those of you who are beginning to "bristle" . . . that I have NEVER agreed that expanded Federal welfare programs held the solution!)

That solution lies, in my opinion, in expanded private, voluntary programs . . . willingly supported and endorsed by community leaders . . . and carried to the point that we can securely offer the "Social Planners" this significant challenge: **SHOW US THE NEED!**

All of which leads me to the purpose of this discussion.

This month, across our land, physicians will be given a concrete opportunity to show that they agree with this philosophy . . . if indeed they do! For, this month your United Appeal or Community Chest volunteer worker will call for your dollar support . . . and, in many instances, for your time and effort. Give it with a smile . . . and with heartfelt thanks to the worker for the splendid cause he is serving! For, this once-a-year effort represents a one-shot appeal on the part of many commendable agencies which serve our communities well, offer hope to countless thousands of people, evidence the "heart" of our cities . . . and in their own small way are helping to stem the tide of Federal welfarism. And, I must say "in their own *small* way" only because our support is not BIG enough! The activities of the various United Fund agencies embrace many areas of service: direct aid to the needy, maintenance of character-building facilities for our youth, support of medical research, health care for the less fortunate, provision for community planning . . . to name only a few. All accomplished by private "subsidy!" Through a single drive, and through the efforts of thousands of volunteer workers, administration costs are cut to the bone . . . so that almost all of your dollar reaches the deserving recipient. Where can you get a better "buy" for the dollar you contribute?

As a "believer," I will contribute my FAIR SHARE to the United Appeal . . . and I will offer a few hours of voluntary service, even though to me, as to most of you, time is a priceless commodity. I will do so because I *believe* in what the Appeal agencies are trying to accomplish for my community . . . because I *believe* a part of the blessings I enjoy should be shared with those less fortunate . . . and because I *believe* that added support of VOLUNTARY health and welfare agencies might help, in some infinitely important way, to preserve the blessings of liberty for my children.

Will you join me?

Rex Kenyon

Glaucoma Detection in General Medical Practice

THOMAS E. ACERS, M.D.

Chronic open angle glaucoma is an insidious asymptomatic cause of blindness in approximately 3,500 patients each year. It is detectable by a simple office procedure, tonometry.

DIGITAL RECTAL EXAMINATION is an integral part of every complete physical examination. The incidence of anorectal pathology in the adult population over 40 years of age is said to be 33 per cent. Between ten and 20 per cent of these lesions are premalignant or frankly malignant, therefore giving an overall incidence of three to six per cent for potentially malignant lesions of the rectum.^{1, 2}

For some reason though, the very important determination of intraocular pressure is seldom performed as part of a complete physical examination. It has been estimated that there are 800,000 persons in the United States who are unaware that they have glaucoma. The disease produces blindness in about 3,500 persons each year. Between two

and ten per cent of persons over 40 years of age have evidence of this disease.³

In a recent screening program, routine tonometry on 7,275 patients revealed an incidence of chronic simple (open angle) glaucoma to be one per cent (under 40 years of age) to nine per cent (by age of 70 years).⁴

Perhaps even more important though, routine tonometry reveals an incidence of 15 to 25 per cent in family members of known glaucoma patients!⁵ Moreover, tonographic studies with the topical corticosteroid provocative test demonstrated that 87 per cent of the offspring of known glaucoma patients had abnormal tonographic responses!⁶

In the above mentioned study, Becker presented evidence that the homozygous state (both genes responsive) is found in the pa-

Thomas E. Acers, M.D., graduated from the University of Oklahoma School of Medicine in 1959 where he is now a member of the attending staff of the Department of Ophthalmology and a lecturer of the Department of Neurology.

Doctor Acers is a member of the Alpha Omega Alpha, the Chirurgical and Medical Faculty of the Johns Hopkins Hospital and the Wilmer Residents Association.

Glaucoma / ACERS

tient with primary glaucoma simplex with a recessive genetic transmission pattern. The heterozygous or carrier state may be detected and differentiated from the normal by the response to topical corticosteroid drops. As the genetic pool increases, of course, so will the incidence of glaucoma in future generations.

Tonometry is a technique easily learned and simply performed. The most popular instrument is the Schiøtz tonometer. A drop of topical anesthetic is applied to both eyes. The patient is put in a reclining position and is asked to "fix" his eyes on a target (for example the thumb extended before them at arms length) directly in the line of vision. The tonometer is gently applied to the cornea with its axis perpendicular to the plane of the cornea. The lids are retracted from the globe by the examiner's fingers. The scale reading with the appropriate weight is recorded. Standard tables (supplied with the instrument) are then used for conversion to mm Hg. The "normal" upper limits of intraocular pressure is 18-20 mm Hg. with the standard Schiøtz instrument.

It would take the physician about 30 minutes in their friendly ophthalmologist's office to learn an adequate technique. His results will become more stable and reliable with every examination and the technique is quickly mastered.

The tonometric examination takes approximately 30 seconds. This simple, quick procedure will lead to earlier detection of glaucoma and prevent irreparable damage to the intraocular structures leading to blindness.

Physicians not performing this examination are now allowing two to ten out of every 100 adult patients to leave their office with a potentially blinding disease. Unlike acute congestive (narrow angle) glaucoma, the symptomatology of the patient with chronic glaucoma simplex is sparse or absent. This disease is an insidious "silent crippler."

Since approximately 40 per cent of the adult population receive eye care through non-medical facilities (optometrists and opticians), they are not receiving adequate professional eye care. But, these same people do have their own family physician with whom to consult. It therefore behooves all physicians to assume the professional obligation to detect this disease at an early, treatable stage.

Our present therapeutic armamentarium, including the topical cholinergic, anticholinesterase, and adrenalin-like compounds, as well as the oral carbonic anhydrase inhibitors, has made this a non-surgical (medical) disease in the majority of cases. Medical control of abnormal intraocular pressure is now possible in 80 to 85 per cent of patients with chronic glaucoma simplex. □

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210 Pasteur Building, Oklahoma City, Oklahoma

The American Hospital Association estimates that nearly one and one-half million persons are patients in hospitals on any given day. More than half of them (720,674) are in psychiatric hospitals. On the average, one in seven persons will be hospitalized sometime this year.

Pregnancy and Labor Complicated by Pelvic Ectopic Kidney

EARL R. MUNTZ, M.D.

Accurate differential diagnosis of pelvic tumors complicating pregnancy is essential for proper treatment and pelvic kidney must be constantly in mind to avoid serious error.

PREGNANCY and labor complicated by pelvic ectopic kidney is relatively uncommon and the occurrence of two such cases in an average-sized private practice within a period of five years seems worthy of comment.

Embryologically, the metanephros (permanent kidney) is present at the fourth intra-uterine week. The kidneys are separate organs from their inception and by the end of the ninth week their ascent and rotation has been completed and they occupy their adult positions, at which time the renal vessels develop. Failure of the normal ascent of the organ results in congenital misplacement of the kidney and the cause of this failure is probably unknown, although it has been attributed to the persistence of fetal arteries.

Renal dystopia is estimated to occur about once in every one thousand autopsies and may be unilateral or bilateral. Bilateral misplacement is very uncommon while unilateral cases are relatively more common, the left

kidney being involved in the majority of instances. Usually the dystopic kidney is located below the pelvic brim and over the sacroiliac joint, although it has been found on the sacral promontory, vertebral column or in the iliac fossa. The misplaced kidney is usually thin, frequently lobulated and is firmly attached to the surrounding structures. The distorted pelvis is usually situated anteriorly with few and small calyces, while the ureters are short and often small in caliber. The renal vessels are invariably anomalous, being derived from the lower aorta, iliacs, median, sacral or other adjacent vessels and the veins are large and tortuous. Associated defects of the genitalia are common, and this should always be kept in mind when anomalies of either system are found in obstetrical and gynecological examinations.

The undiseased ectopic pelvic kidney is usually asymptomatic, although vague lower abdominal pressure pain, pelvic pain, low back pain and dyspareunia may be present. It is well known that a unilateral dystopic kidney is compatible with normal pregnancy and delivery in most cases, but it must be kept in mind constantly that these displaced organs are predisposed to disease, especially hydronephrosis, pyelonephritis, pyonephrosis or calculi, which would adversely affect either the pregnancy or parturition.

The diagnosis of an ectopic pelvic kidney during pregnancy is almost always initiated by palpation of an atypical or unusual pelvic mass by abdominal pelvic bimanual palpa-

tion. In the past a few cases were diagnosed at the time of laparotomy for supposed tubo-ovarian disease, tumor or appendicitis. When suspicion is aroused, whether by vague symptoms, the presence of genital deformity or the palpation of an atypical pelvic mass, urography will reveal the abnormal position of the kidney. The ectopic kidney is usually fixed in the pelvis with a short and narrow ureter, while a movable kidney has a tortuous ureter of normal length. The pelvic kidney usually gives evidence of variable degrees of function. Fused kidneys and bilateral pelvic kidneys can be differentiated by careful intravenous and retrograde urography.

The two examples of proven ectopic pelvic kidneys associated with pregnancy which have occurred in my practice during a five-year period are considered worthy of a brief resumé.

The first patient was a white multigravida, para II, gravida III, age twenty-two years, who reported for her first prenatal visit December 13, 1955. Her last menstrual period occurred October 1, 1955. At the time of her first visit she had no complaints and complete physical examination and laboratory studies were within normal limits except for the pelvic examination. The latter revealed the usual evidence of early intra-uterine pregnancy and, in addition, an atypical, fixed and semi-soft mass was palpable in the left pelvis. The entire mass could not be felt by the examining fingers and it was described "as if only the lower half of the mass could be reached." A moderate degree of tenderness was elicited on palpation of the mass. The proper diagnosis was not suspected at the first examination, and the patient was requested to return for a recheck after a cleansing enema. Consultation produced a tentative diagnosis of solid tumor of the ovary and surgery was advised.

The patient did not return until February 20, 1956, when the pelvic findings were the same except, of course, for the presence of a four-month gestation. It was at this time that the possibility of pelvic kidney was considered and on February 23, 1956, an intravenous urogram revealed the diagnosis. The report of the radiologist was: "The urogram

reveals fairly normal anatomy on the right side. On the left there appears to be a completely pelvic kidney with only about two inches of ureter. The complete anatomy of this kidney is not well seen, but appears not far from normal since the calyces seem within normal limits."

The two previous pregnancies, in 1952 and 1954, were normal, and the patient delivered term infants of eight pounds without complications. The present pregnancy progressed normally without unusual symptoms, and on July 28, 1956 she had a spontaneous delivery of a 9 lb. 11 oz. female infant after eight hours of labor. Immediately after delivery the kidney was palpated, was found to have no detectable change and clear urine was obtained from the bladder. Her postpartum course was uncomplicated and a postpartum examination on September 24, 1956, revealed normal pelvic findings, with the left kidney palpable exactly as it was on previous examinations. This patient had no symptoms referable to the abnormally placed kidney during this pregnancy, and no history of urinary tract infection. She was seen later for pelvic examination in December 1957 with no abnormal findings, and no changes were palpable in the displaced kidney. She moved from the city at this time and has not been seen since then.

The second patient was a white primigravida 16-year-old who was first seen elsewhere on June 15, 1960, stating that her last menstrual period had occurred March 30, 1960. Her past history revealed only childhood diseases and pyelitis a few times during childhood. Pelvic examination revealed the usual findings of a 12-week intra-uterine pregnancy and a mass in the left side of the pelvis which was considered to be a solid tumor of the left ovary. General physical examination and laboratory studies were within normal limits. Consultation was requested for confirmation of the diagnosis.

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This young lady consulted me June 16, 1960 and, as in the first case, my notes include the usual findings of a 12-week intra-uterine pregnancy plus "an unusual, firm, fixed and tender mass high in the left side of the pelvis which apparently is fixed to the pelvic wall." My notes also added: "I do not know what this mass represents, and will examine again after cleansing enemas." She had no abnormal symptoms except a mild degree of nausea and vomiting.

In this instance the proper diagnosis occurred to me late on the first day of examination during a moment of relaxation and reflection. Pelvic recheck revealed the same findings and an intravenous urogram was reported as follows: "Normal function and anatomy on the right. On the left side a pelvic or sacral kidney is present with a ureter that is not more than two inches in length. Radiographically this kidney does not move with changes in position. It has an anomalous appearance but seems to function well." A cystoscopic examination added nothing to these findings except for a "fish mouth" left ureteral orifice. It was concluded that she should be treated conservatively with the expectation of a normal pregnancy and delivery.

Her prenatal course was characterized by vague and short episodes of pelvic and lower abdominal pains for which no cause could be found; these gradually subsided as her pregnancy progressed and as she developed a better mental attitude toward her situation. Specifically she did not develop urinary complications at any time. Roentgenographic pelvimetry late in the pregnancy revealed normal pelvic measurements and architecture. On December 26, 1960, at term, she had spontaneous rupture of the amniotic sac which was followed very shortly by active labor of good quality and after two and one-half hours of labor she spontaneously delivered a normal girl infant weighing 7 lbs. 5½ oz. There were no complications during labor or delivery and, again, palpation of the pelvic kidney immediately after delivery revealed no difference in size, shape or position of the kidney. Clear urine was obtained from the bladder. Her postpartum course was uncomplicated and routine examination February 8, 1961, revealed normal findings except for the ectopic kidney, which to palpation felt exactly as noted on her first

examination. This lady was seen for routine examination in 1961, 1962 and 1963 and has had no abnormal symptoms referable to her pelvic kidney, nor abnormal findings except as noted previously.

SUMMARY AND CONCLUSIONS

Two patients with proven single ectopic pelvic kidneys associated with pregnancy and delivery at term without complications are reported. These two instances, together with those reported in the literature lead to the conclusion that no complications of pregnancy and delivery are likely in the majority of such cases but surgical complications involving the displaced organ should be anticipated during pregnancy and treated as indicated if they occur. Careful pelvic mensuration, including roentgenographic pelvimetry if indicated, should be done. Caesarean section may be indicated for fetal-pelvic disproportion, dystocia due to the abnormal pelvic mass and, of course, other valid obstetrical indications. If a solitary kidney is ectopic Caesarean section is advisable to avoid all possible trauma to the organ. Injury to the pelvic kidney during labor or delivery is possible, and the organ should be carefully checked for this possibility immediately after delivery and repeated examinations made during the early puerperium. □

Addendum: (December 1964) The second patient reported in this paper has just completed her second pregnancy with delivery of an 8 lb. 11 oz. baby without complication.

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Advances in Therapy of Classic Hemophilia

D. MAX GREGORY, M.D.
JAMES W. HAMPTON, M.D.

Hemophilia with its life-threatening hemorrhage especially complicating surgery although long an enigma to the physician is being investigated for rational therapeutic agents.

CLASSIC HEMOPHILIA, also known as hemophilia A, was first described by Doctor John C. Otto in 1803.¹ The disease is inherited as a sex-linked Mendelian trait and, therefore, occurs almost exclusively in the male. Aggeler recently reported the unusual case of a heterozygous woman or transmitter female who had a low concentration of Factor VIII and was said to manifest the disease.² In 40 per cent of the recorded cases of hemophilia there is no family history of hemophilia.³ This has been attributed to mutation of the normal gene. It has been estimated that there are two to three patients with congenital hemorrhagic diseases for each 100,000 population. Classic hemophilia comprises approximately 80 per cent of these diseases and occurs in all races.⁴

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The life history of the hemophiliac is marked by recurrent bouts of excessive bleeding. The hemorrhagic tendency usually appears in infancy and remains a lifelong affliction. Excessive bleeding from the umbilical stump or after circumcision are the first manifestations of the disorder.

Since toddlers are more frequently exposed to lacerations and abrasions, the hemophiliac at this early age develops hematomas, hemarthroses and severe bleeding. After reaching adolescence their frequency of bleeding episodes appears to decrease. This has been attributed to the patient's better understanding of how to protect himself. The most common bleeding episodes in the adult include hematomas, hemarthroses, hematuria, perineural and bleeding following dental extractions. The most life-threatening hemorrhagic episodes occur where there is intra-abdominal, gastrointestinal, or intracranial bleeding.

THE DIAGNOSIS

Classic hemophilia may be suspected when a child has a lifelong history of excessive bleeding, but the diagnosis ultimately depends on the laboratory findings. Coagulation tests which are normal include the prothrombin time, the platelet count, the fibrinogen concentration, and, usually, the bleeding time and tourniquet test. The whole

blood clotting time is abnormal in only 40 to 50 per cent.³ The prothrombin consumption time is frequently abnormal. The final differentiation of classic hemophilia from other congenital hemorrhagic disorders is done with the thromboplastin generation test which establishes the plasma Factor VIII defect.

Individuals with so-called "mild" classic hemophilia have been described recently.⁷ Their bleeding is trivial but they have abnormalities in coagulation tests which are identical to the tests on individuals with more severe clinical manifestations and which indicate a clotting Factor VIII defect.

THE MANAGEMENT

Since the plasma defect in this disease has not been identified precisely the treatment remains primarily supportive with the transfusion of fresh whole blood or fresh frozen plasma when the bleeding is internal or local measures fail.

Parents of a hemophiliac child should be instructed in ways to prevent trauma, lacerations or other injuries. Cribs should be padded and plastic or rubber toys obtained. Sponge knee pads may be of value in those infants who are crawling or learning to walk. Parents should be taught that minor ailments, such as swelling or pain, may indicate hematomas and that the child should be seen promptly by his physician if he develops these symptoms.

Throughout their lives these patients exist on the brink of disaster and most of them spend a considerable portion of their lives in the hospital. Psychological withdrawal may occur as a result of the chronic illness and the failure of the hemophiliac to successfully participate in athletic or social competition. Other hemophiliacs become temerarious and tend to court disaster. Many hemophiliacs feel that the initiation of their bleeding episodes is directly related to their emotional adjustment and seek psychological support from their physician. Because of the nature of the inherited defect, genetic counseling of the patient, his parents and his sisters, who may be asymptomatic transmitters, is another area where the physician can offer help.

SPECIAL PROBLEMS OF MANAGEMENT

Treatment of Lacerations. The local treatment of lacerations should include cleansing of the wound to remove debris and the clot and thereby reduce infection. Removal of the clot should be followed by saturation of the wound with a solution of topical thrombin. Absorbable packs such as fibrin foam, oxidized cellulose (OxyCel), or gelatin sponge (Gelfoam) may be saturated with thrombin or a thromboplastic material as Russell viper venom and placed directly in the wound. All large vessels should be ligated but the laceration should not be closed because this may provoke more serious bleeding. Cauterization is contraindicated in that it impedes healing, causes sloughing later and may result in recurrent bleeding. A local pressure dressing should be applied. Initially the pressure should be sufficient to arrest the flow of blood and allow time for the formation of a firm clot. The dressing is then loosened to allow normal circulation but adequate pressure must be maintained to hold the pack and clot in position. Immobilization of the affected part is necessary. The application of cold packs should be done to induce vasoconstriction and enhance stasis in the area.

Dental Care. Dental prophylaxis is of paramount importance because of the common abnormalities which necessitate extraction. Filling of caries usually can be done without fear of severe hemorrhage but if ex-

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traction is mandatory it is necessary pre-operatively to raise the Factor VIII level to 30 per cent of normal and continue this until bleeding has subsided which is usually by the third post-operative day.³ Frequently there is a recurrence of bleeding five days after extraction and it is necessary to give further plasma infusions and even transfusions of whole blood. The extraction should be completed with a minimum of trauma. The sockets are then filled with dried thrombin and packed with oxidized cellulose. Protection of the extraction area by a "peridental pack" or an acrylic splint are essential to control bleeding.

Treatment of Hemarthrosis. While hemarthrosis rarely threatens life, it is the major cause of incapacity both in the acute episodes and as a result of the arthropathy which results from recurrent episodes. Frequently, even with proper treatment, residual damage and incapacity develops. The joints most commonly involved are the knees, ankles, wrists and elbows. Hemarthroses may result from an injury to the joint but more commonly they occur spontaneously in the weight bearing joints. Treatment consists of bed rest, application of cold packs, elevation and immobilization of the involved extremity. If more than one hemarthrosis is present at the same time or frequent recurrences of hemarthrosis in the same joint occur, then transfusions of fresh-frozen plasma may speed resolution. Aspirations of the joint have been shown to be consistently effective only when the hemophiliac is receiving fresh-frozen plasma and the patient is under the close supervision of an orthopedist and hematologist trained in these procedures.⁷

Preparation for Surgery. The mortality rate for surgery in the hemophiliac patient has been estimated at 20 per cent.⁸ This figure was derived after the general acceptance of fresh-frozen plasma to control the bleeding. When a surgical complication arises the attending physician must be positive of the diagnosis since intramural bleeding into the intestine, bleeding into the peritoneal cavity, or bleeding into the retroperitoneal space may simulate the rupture of a hollow viscus or peritonitis. When a suspected surgical

complication arises the patient should be treated immediately with fresh-frozen plasma or a plasma fraction rich in Factor VIII activity. Frequent and careful abdominal examination should be performed. Special attention to the improvement in bowel sounds may be the first sign that the bleeding has ceased. Improvement in clinical signs and symptoms is strong evidence that the acute abdominal findings are related to bleeding rather than to peritonitis or gangrenous bowel. Fresh-frozen plasma should not be relied on to protect the patient during surgery. If the diagnosis of peritonitis becomes apparent, the plasma Factor VIII level should be raised to 40 or 60 per cent and maintained above 30 per cent with fibrinogen rich in Factor VIII. This partially-purified plasma fraction has been used successfully to prevent bleeding while even a hip disarticulation was performed.⁶

TRANSFUSION THERAPY

Addis first noted that plasma would correct the coagulation defect of hemophilia in 1911.⁹ Since that time, fresh plasma infusions have remained the most important method for control of severe bleeding. Unless a severe anemia due to hemorrhage exists, the basic objective in therapy is to raise the plasma Factor VIII to 25 or 35 per cent of the average normal plasma level.³ Infection, severe trauma, insufficient immobilization of a joint and disruption of large vessels will cause persistent bleeding in spite of otherwise adequate Factor VIII levels. The administration of fresh whole blood should be used only in those cases with severe anemia.

Brinkhous reviewed transfusion therapy and recommended an initial or primary infusion of fresh plasma equal to one per cent of the total body weight followed by smaller maintenance transfusions equal to 0.5 per cent of the total body weight at four to six hour intervals until bleeding has subsided.¹⁰ Factor VIII disappears rapidly from the circulating plasma. This results not only from rapid utilization but also from the normal distribution of Factor VIII to the empty extravascular compartments. The half-life of Factor VIII *in vivo* has been estimated to be only two to six hours. Since Factor VIII activity rapidly disappears from plasma at

room or body temperatures, it must be infused intravenously as rapidly as it thaws. At most 1,000 ml. of fresh-frozen plasma will be required over a 24 hour period to effect hemostasis. The complications of plasma therapy consist of hypervolemia, serum hepatitis or the development of resistance to the transfused Factor VIII after multiple transfusions. If bleeding persists in spite of adequate treatment a Factor VIII assay is of value. If the level does not rise in spite of transfusion, it may be inferred that an Anti-Factor VIII exists. In such cases Diamond has sometimes used exchange transfusions with temporary success but he has found fibrinogen rich in Factor VIII to be more effective.

THE USE OF CONCENTRATES OF PLASMA FACTOR VIII

Patek was the first to demonstrate an extract from human plasma which would correct the clotting defect in hemophilia.¹² Since then many have attempted to purify human Factor VIII from plasma. Human Factor VIII activity has been concentrated two to four times from pooled plasma and is commercially available.* It is possible to achieve blood levels of 30 to 40 per cent of normal using human Factor VIII.¹³ The advantages to its use are the smaller volumes and the more rapid elevation of blood levels of Factor VIII. Because the human Factor VIII concentrate is derived from several plasma donors, the risk of serum hepatitis is increased proportionally.

In 1960 the Swedish investigators reported their use of Factor VIII-rich concentrated fibrinogen derived from pooled human plasma.¹⁴ Their final product, which they called fraction 1-0, was reported as 98 to 100 per cent pure with a Factor VIII concentration 20 to 50 times that of plasma when calculated on a protein basis. It is still not possible to separate Factor VIII from fibrinogen. This interesting chemical inter-relationship may have great significance when the exact structure of Factor VIII and its contribution to the clotting reaction are finally known. Nilsson reported 63 patients treated with this fraction including eight cases of major surgery with a 100 per cent survival rate. Although this fraction is not

commercially available in the United States a somewhat similar fraction has been developed.** It is prepared similarly using an ethanol-water fractionation process but the step using amino acetic acid for additional purification is omitted. This Factor VIII-rich fibrinogen is supplied in the dried state and is restored by adding 100 ml. of sterile water. Mixing must be by gentle rotation since whipping tends to convert the fibrinogen to fibrin which will adsorb the Factor VIII activity. The preparation contains a seven fold concentration of Factor VIII. It should be administered rapidly once it is mixed and given every four hours as with fresh-frozen plasma until bleeding has ceased. During its administration there is a marked elevation of fibrinogen levels which may be associated with intravascular thromboses, cyanosis or tachycardia. Other complications include the development of Factor VIII-inhibitors, serum hepatitis and hemolytic phenomena.

The Oxford group has pioneered the use of animal concentrates of Factor VIII activity. Bidwell in 1955 first described methods for extracting this material from bovine and pig plasma.¹⁵ Factor VIII is concentrated ten to 20 times from animal plasma. The advantages of this extract are that the concentration of Factor VIII is greater, the extract has a more stable activity and the animal source is readily available. The usefulness is considerably reduced, however, because after one week of therapy the patient becomes resistant to treatment. This is most likely due to the reaction to a foreign protein.¹³ Because of this reaction, complications have included hemolytic anemia, platelet agglutination and severe anaphylactoid reactions. The animal extract of Factor VIII is not commercially available in this country since it has not been approved by the U. S. Food and Drug Administration.

EXPERIMENTAL THERAPY

Peanuts. Since 1960 when Boudreaux and Frampton¹⁶ reported their personal experience as hemophiliacs with the use of eating peanuts to diminish the frequency of bleeding episodes there has been no critically controlled study to substantiate their findings.

*Hyland Laboratories

**Merck Laboratories

Astrup has postulated that some component of the peanut suppresses the natural blood fibrinolytic activity.¹⁷ This inhibition of clot lysis might tend to strengthen the abnormal hemophilic clot structure which has been demonstrated *in vitro*.¹⁸

Epsilon Aminocaproic Acid. Matsumura and co-investigators have used this concept of the prevention of clot lysis to justify the administration of epsilon aminocaproic acid (EACA), a well-known inhibitor of blood fibrinolytic activation.¹⁹ Their best results were obtained in individuals with less severe bleeding episodes. Geisler and co-workers reported on the use of EACA during tooth extractions in 11 hemophilic patients.²⁰ Twelve to 40 gms. of EACA per day were given in syrup or tablet form beginning 24 hours prior to extraction and the drug was maintained for three to five days afterward. Local hemostatic material was placed in each root socket and the patients were permitted nothing by mouth except medication for 24 hours. Thirty-one extractions were performed and in no case was it necessary to use transfusions of blood, Factor VIII concentrate or plasma. It should be pointed out, however, that only one of these patients had severe clinical hemophilia.

Corticosteroids. A preliminary report by Schulman on three hemophiliac patients with hematuria suggests that their bleeding episode was substantially shortened by the administration of steroids.²¹ A previous report by Stefanini on the effect of long-term treatment of hemophiliacs with flavonoids or glucocorticosteroids is difficult to evaluate.²² The mechanism of action is unknown but the authors suggest that it may alter vascular fragility or permeability.

Hypnosis. The use of hypnosis has a politically historical background since it has been stated that Rasputin, the mad monk of Russia, controlled the bleeding of the young Czarevitch by hypnotizing him. Lucas has used hypnosis recently to allay the fear and anxiety which arise in hemophiliacs with any surgical procedure but especially tooth extractions.²³ The physiological mechanism by which hypnosis diminishes bleeding remains obscure. Geisler has suggested that the mechanism is by fibrinolytic inhibition

but more recent evidence suggests that plasma levels of Factor VIII activity may be directly influenced by higher autonomic centers in the brain.²⁴

SUMMARY

The treatment of hemorrhage in the classical hemophiliac in the past was limited to the use of fresh or fresh-frozen plasma transfusions. Recently plasma Factor VIII concentrates have become better purified and have made it possible to elevate the plasma Factor VIII levels to control the most severe hemophiliac bleeding. Because the supply of human Factor VIII concentrate is small and its cost so high, this material has been used most frequently during episodes of life-threatening hemorrhage. The use of the animal plasma Factor VIII, in addition to the anaphylactoid side effects, is limited because of its lack of availability in the United States.

Antifibrinolytic agents have been used experimentally with success in the prophylaxis and treatment of hemophilic bleeding. This method of treatment may, in the future, be all that is required to control bleeding in the "mild" or only moderately severe hemophiliac. When bleeding occurs in more severely affected patients in whom defective and limited fibrin is formed, then Factor VIII activity must be raised substantially in the circulation before bleeding will cease. Psychological support of the hemophiliac and his family by the physician and the limited use of hypnosis by trained physicians to help allay the anxieties of the hemophiliac may serve to help control this threatening disease in the future. □

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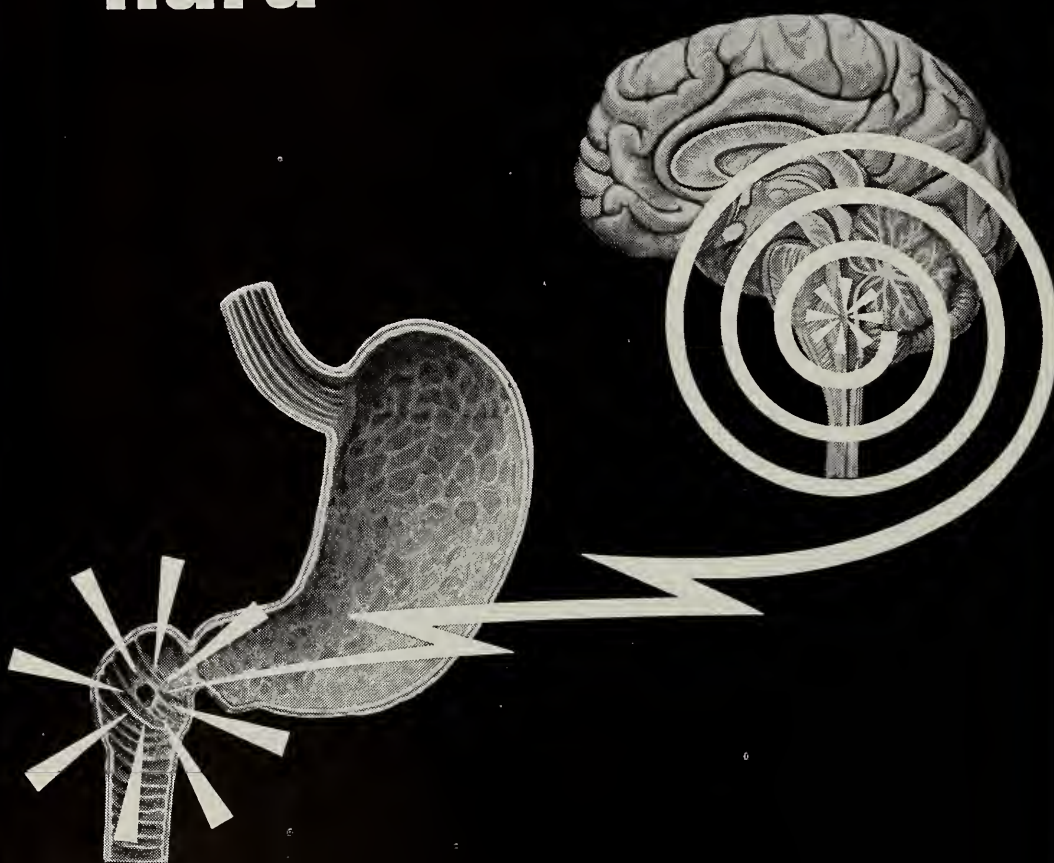
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Research in the Service of Medicine

Coccidioidomycosis

JAMES P. RHOADS, M.D.

A brief review of clinical aspects of this disease with emphasis on treatment.

A SOLDIER from the Argentine Pampa entered the University Hospital in Buenos Aires in 1891 because of skin tumors. Alejandro Posadas, a medical student, and his chief, Robert Wernicke, carefully observed this patient. They considered the disease to be mycosis fungoides but they recognized parasites in the lesions which resembled the protozoan *coccidia*. This patient was studied until his death, seven years later, from disseminated coccidioidomycosis.¹

Rixford and Gilchrist in 1895 studied the organism obtained at autopsy from the second known case, an inhabitant of the San Joaquin Valley in California, who died of a disease characterized by abscesses and tubercles throughout the body. By means of animal inoculation experiments they came to realize its significance in the etiology of the illness. They, too, felt the organism was a protozoan and named it *coccidioides immitis* because of its resemblance to the genus *coccidia*, the agent of coccidiosis in chickens.¹

Ophüls studied the third recognized United States case in 1900 and first realized the

fungus nature of *c. immitis*. He also was the first to become aware of the primacy of the lungs as the portal of entry of the infectious agent. Finally, Dickson and Gifford in the early 1930s discovered that the familiar San Joaquin Valley Fever was indeed primary coccidioidomycosis.¹

Human coccidioidomycosis has become a disease of importance only in the last 100 years. Prior to that time few people ventured into the areas where the disease can be acquired.¹ Endemic areas are almost identical to the areas of the Lower Sonoran Life Zone.^{1,2} These are semiarid regions near deserts with some precipitation during a rainy season yet with hot, dry, dusty summers.^{1,3} Distribution of the pathogenic fungus within these areas is not uniform, but spotty.² The southern San Joaquin Valley in California and the Phoenix-Tucson area of Arizona are similar in that they possess the most marked soil contamination of *c. immitis* in the United States.² The degree of soil contamination is reflected by the incidence of coccidioidal infection among cattle, which provides a natural index for the degree of endemicity in any area.^{2,3} At least portions of six states, California, Arizona, Nevada, Utah, New Mexico, and Texas, as well as northern Mexico, lie within the Lower Sonoran Life Zone and harbor *c. immitis*.^{1,3}

C. immitis is a fungus and consequently is classified in the Phylum Thallophyta which consists of elementary plants not differentiated into roots, stems or leaves. Fungi

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lack chlorophyll and must depend on other living organisms for food. Therefore they are either saprophytic or parasitic.¹

The genus *coccidioides* contains only the one species, *c. immitis*. Two phases are recognized, the parasitic and the saprophytic. The parasitic phase is seen in infected animals and the saprophytic in external nature, on most laboratory media and in certain conditions in animal hosts.^{1, 4}

The "spherule" is the form of *c. immitis* which is seen in host tissue. This is a round, double-walled sporangium usually ten to 80 microns in diameter. Mature spherules may contain up to 200 endospores. Young spherules are more commonly seen. They have a clear cytoplasm without endospores. When mature, the spherule ruptures and each endospore develops into a new spherule.^{1, 4, 5}

Spherules may remain viable several days outside the body—up to three months when refrigerated.¹ In routine laboratory media germ tubes sprout from spherules and produce hyphae. The saprophytic phase hence is a mycelial phase. After a few days of growth many cells of the aerial mycelium develop into spores of the arthrospore type.^{1, 3} These spores, then, are the infective agent in this disease.^{1, 2, 3, 6}

Only two types of coccidioidal lesions, residual pulmonary cavities and benign pulmonary granulomas, tend to harbor *c. immitis* in the mycelial phase.¹

The spherule is the only morphologically constant cell of *c. immitis*. The variability of morphological characteristics of the saprophytic phase of various strains of *c. immitis* is great. Definitive diagnosis from the mycologic point of view depends on animal inoculation and the recovery of the characteristic non-budding, doubly refractile, endosporulating spherules.^{1, 3, 5, 7}

C. immitis grows readily on most laboratory media under a great variety of conditions.^{1, 3} The fungus is readily grown from the sputum of infected patients. It may also be recovered from skin lesions, sinus tracts, effusions, biopsy specimens and occasionally even blood or urine.^{1, 3} However, even in known cases of coccidioidal meningitis it is difficult to culture the organism from the spinal fluid.¹

Fiese¹ notes that "*coccidioides* thrives on such simple substrates and tolerates such ex-

tremes of temperature and pH that it might be expected to be ubiquitous. As a matter of fact, its geographic limitations are more severe than those of any other important pathogenic fungus . . . *coccidioides* will grow under almost any condition in the laboratory—yet in external nature its habitat is limited. It thrives best on rich media—yet in the desert it is most often found on the leanest soil. The only deleterious laboratory condition is the combination of high temperature and low humidity—yet it is precisely in areas where such a condition obtains that the organism flourishes." The reason for the seeming paradox is not known but it has been pointed out that *coccidioides* grows more readily in sterilized soils than in unsterilized ones. Perhaps heat and low humidity abet its growth by sterilizing the soil, i.e. by retarding *c. immitis* but killing antagonists and competitors.¹

"The only unique feature of the coccidioidal lesion is the presence therein of the spherule of *c. immitis*."¹ Otherwise it is a typical granuloma.^{1, 3}

The skin is involved in nearly all cases of disseminated coccidioidomycosis, meningitis excepted. The verrucous granuloma is the most characteristic skin lesion. Frequently seen, too, is the subcutaneous abscess, a typical cold abscess. Indolent ulcers are frequent and these represent terminations of sinus tracts arising in subcutaneous tissues, bone or viscera. Tiny evanescent papular lesions may occur on the legs and torso and these, too, contain *c. immitis*.^{1, 8}

The lymph nodes, especially those of the mediastinum, are invariably involved to some degree with *c. immitis* granulomata.^{1, 9} The spleen and liver are also frequent sites of involvement.¹

The lungs and pulmonary tree are doubly vulnerable to coccidioidal infection being open to the airborne spores which cause the primary tracheobronchitis and bronchopneumonia and also being susceptible to the same processes which cause disseminated lesions

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in other organs. Lesions vary from solitary granulomas or cavities to miliary involvement. Pleural involvement may produce fibrinous inflammatory changes, granulomas, effusions and empyema.¹ The pericardium and myocardium, too, are often involved.^{1, 10}

Coccidioidal osteomyelitis is very characteristic and occurs in one-half of the cases of disseminated disease. Ribs, vertebra, skull and bones of the extremities (particularly the distal portions) are commonly involved. Lesions tend to occur in the middles of flat bones and at the ends of long bones. Lesions in the epiphyses often perforate the articular cartilage and penetrate joints. Inward extension of skull lesions may involve meninges. Lumbar vertebral involvement may produce psoas abscess formation. It is notable that the prognosis is worse in cases with multifocal coccidioidal osteomyelitis. Lesions in one or a few bones, on the other hand, may represent a chronic, non-progressive, self-limited disease.¹

Coccidioidal arthritis occurs in one-third of the cases of chronic dissemination. The ankle joint is most often involved. The knee, foot, elbow, wrist, shoulder and hand are next in order of frequency. Initially joints are swollen and red. Later, discharging sinuses develop. Occasionally the dissemination appears first in the synovial membrane but more often the arthritis represents extension from adjacent osteomyelitis.¹

The adrenals are involved frequently but this is rarely of clinical significance.^{1, 3}

C. immitis occasionally produces solitary or multiple granulomas of the brain and only rarely a brain abscess. Among Caucasians, meningitis is the commonest cause of death from coccidioidomycosis.¹ Usually there is "a firm, plastic type of meningeal inflammation which results in the encasement of the brain substance, particularly the brain stem, in a rigid, highly organized, granulomatous mass of tissue," to quote Forbus as cited by Fiese.¹ Obstruction of cerebrospinal fluid channels with internal hydrocephalus eventually results. The lesions are most pronounced at the base of the brain. Occasionally granulomas may cause spinal cord compression.¹

The kidneys are affected in about one-half of the fatal cases of disseminated coccidioidal

disease. Usually this involvement is in the form of small miliary granulomas.¹ Several cases of coccidioidal epididymitis have been reported and often this lesion is the only extrapulmonary focus.^{1, 3}

Coccidioidomycosis almost always spares the gastrointestinal tract. The reason for this is unknown.¹

Pathological changes occurring in primary coccidioidomycosis have not been well studied in human material due to the benignity of this stage of the disease.¹

The initial or primary infection of coccidioidomycosis is produced by entry of the highly infectious arthrospores of *c. immitis* into the respiratory tract usually by way of spore-laden dust.^{1, 2, 3, 6, 11, 12} This produces no symptoms or only vague mild illness in 60 to 75 per cent of the cases after an incubation period of seven to 28 days (usually about two weeks).^{1, 2} The remainder of individuals so infected develop a more distinct illness of varying severity and duration, consisting of fever, chest pain, cough, anorexia, headache, myalgia and easy fatigue.^{1, 2, 9, 11} In 25 per cent of female patients, but only four per cent of males, primary coccidioidomycosis is accompanied by erythema nodosum or erythema multiforme thereby producing the classical picture of Valley Fever.^{2, 8, 11} In the symptomatic cases, about eight per cent develop arthritis and an equal number conjunctivitis.¹ The skin rash, arthritis, and conjunctivitis are evidence of an excellent immune response and most always militate against dissemination.^{1, 2}

Primary coccidioidomycosis is associated with a moderate leukocytosis, up to a 20,000 white blood cell count in one-half of the cases. Early there is an increased number of immature polymorphonuclear leukocytes and later a lymphocytosis. Eosinophilia of four to ten per cent is very common and 25 per cent of the cases have more.¹ The erythrocyte sedimentation rate is elevated and then falls with recovery. A normal erythrocyte sedimentation rate rules out active coccidioidomycosis in the presence of a positive coccidioidin skin test. Often the fungi may be cultured from the sputum in primary disease. A biologically false positive serologic test for syphilis may occur. Chest roentgenograms will vary from normal to extensive pneumonic infiltrate, adenopathy and ef-

fusion.^{1, 3} The coccidioidin skin test becomes positive in 80 per cent in one week and in virtually 100 per cent in three weeks.^{1, 2, 3} In mild infections the serologic tests are usually negative. The more severe and prolonged the infection, the greater the possibility that the reactions will be positive. Precipitins are presumed to indicate active disease although the disease certainly may be active without their being present. The precipitins are present by the end of the third week of illness (if they are going to appear). They begin decreasing after the fourth week and are usually gone completely by the third or fourth month. Complement-fixing antibodies are present in ten per cent of cases by the end of the first week and in an increasing percentage over the next four months. Following resolution, the titer slowly falls to from 0 to 1:4. Except in disseminated disease it may be taken as axiomatic that no other test will be positive if the skin test is negative. Repeated skin tests rarely give rise to circulating antibodies. There is some skin test cross-reaction with North American blastomycosis but none with histoplasmosis.^{1, 2, 3, 4, 7, 13, 14, 15}

Following primary infection, five per cent of patients are left with "benign" residual pulmonary disease in the form of cavities (classically thin-walled), solitary nodules or coccidioidomas, diffuse pulmonary fibrosis and possibly bronchiectasis. The commonest symptoms from residual cavities is hemoptysis.^{1, 2, 11}

Rarely the portal of entry in primary coccidioidal disease is by way of the skin.^{1, 2, 3, 8}

More hazardous than being an agricultural worker in the San Joaquin Valley, so far as acquiring primary coccidioidomycosis is concerned, is being a laboratory worker where fungi are grown. Of 1,895 initially skin test negative individuals working in a large government laboratory in Maryland, 210 developed positive skin tests during an 18-year period. Freon-tight ventilated hoods were used at this laboratory.¹⁴ In other laboratories with less stringent safety precautions the chance of acquiring primary disease is much higher.^{1, 14}

Colwell and Tillman⁷ have pointed out that with the development of effective antifungal chemotherapy, early and accurate diagnosis of disseminated coccidioidomycosis has be-

come imperative. Scalene node biopsy is of no value in this regard.⁹ However, re-evaluation of symptomatic patients after four weeks of illness revealed persistent temperature elevation, weight loss, anemia, extrapulmonary physical findings and unstable chest roentgenograms in patients who developed subsequently proven disseminated disease. Maximum complement fixation titers will separate the two groups but only after many more weeks. Probably if treatment is started with amphotericin early in the course of dissemination, remission may be expected with a lower total dose of the drug.⁷

It is estimated that approximately ten million persons now living have been infected at some time with *C. immitis*. However, in only about 0.5 per cent of the cases does coccidioidomycosis become disseminated. Mexicans are about three times, Negroes 14 times, and Filipinos 175 times as prone to suffer dissemination as Caucasians. Untreated disseminated coccidioidomycosis has a 50 percent overall mortality rate.^{1, 2, 11} Fifty to 70 deaths are reported from this disease annually.⁴

Disseminated coccidioidomycosis may be divided into several types: (a) Acute miliary dissemination, (b) acute meningitis, (c) chronic generalized dissemination, (d) chronic meningitis, (e) isolated peripheral granulomas, and (f) dissemination which is not apparent.¹

Dissemination usually occurs early although cases have been reported where dissemination occurred after an interval of two to three years during which the patient had no apparent manifestation of the disease.^{1, 3, 11} Dissemination is more likely in patients with pregnancy, diabetes mellitus, tuberculosis, lymphomatous disease, or those who are being treated with corticosteroids.¹¹ Males are more often affected than females. The serum complement fixation titer is a function of the severity of the primary disease and cases with a titer as high as 1:64 or with a continuing elevation of titer are likely to develop dissemination from the primary focus in the lung.^{1, 2, 7}

Acute miliary dissemination and acute meningitis which are untreated are rapidly fatal. With massive hematogenous dissemination of the fungus there is no intervening

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period between the primary and disseminated phase.^{1, 16} This fulminant form is most common in Filipinos, Negroes and pregnant women.^{1, 16} The severe primary illness progresses relentlessly to death while new verrucous skin lesions and subcutaneous abscesses appear almost daily.¹ The skin test becomes negative as dissemination occurs. Peculiarly enough, miliary dissemination often spares the central nervous system. Conversely, when acute fulminating meningitis follows hard upon primary coccidioidal pneumonia the gross lesions are limited to the lungs and meninges, sparing other viscera. Unlike chronic meningitis, which typically causes only a low complement fixation titer, acute coccidioidal meningitis is accompanied by a high titer, often maximal. Skin sensitivity to coccidioidin, often strong in chronic meningitis, may fail in acute meningitis. Meningitis, both chronic and acute, is more common in white-skinned people.^{1, 2}

The chronic forms of disseminated coccidioidomycosis may persist many years before recovery or death.^{1, 3}

In chronic generalized dissemination the patient typically has primary coccidioidal pneumonia followed in several weeks with apparent recovery (although the erythrocyte sedimentation rate remains high). Then, fever recurs, appetite fails, the complement fixation titer rises, and in a month or so disseminated lesions become evident.^{1, 7} Dissemination may even be more insidious and indeed cases often occur wherein one or more disseminated lesions are the first clinical indication of the patient's illness. These lesions occur most often in the skin, subcutaneous tissues, and bone with draining abscesses and sinus tracts.^{1, 8, 11} Meningitis occurs in about 25 per cent of people with chronic generalized disseminated disease. Chronic disseminated coccidioidomycosis may follow one of several courses: (1) Steady progression, (2) long persistence without progression, (3) remission and exacerbation, and (4) apparent cure. The skin test becomes negative in the latter form but becomes reactive again as resolution occurs.^{1, 3, 11}

Chronic meningitis usually begins insidiously one to two months after mild vague primary pulmonary disease. Headache usu-

ally is the first symptom followed by forgetfulness, confusion, drowsiness, convulsions, diplopia, unsteady gait, anisocoria, papilledema, and occasionally low-grade fever. The patient gradually slips into coma and dies. Rarely an indolent form of meningitis occurs with the patient living up to ten years during which time he has intermittent symptom-free intervals.^{1, 2, 11}

Chronic meningitis, although invariably fatal, is often associated with strong cutaneous reactivity, unless it is a part of generalized dissemination. Also, the serum complement fixation titer is usually quite low. Criteria for diagnosis of coccidioidal meningitis include: pleocytosis, elevated cerebrospinal fluid protein, cerebrospinal fluid complement fixation titer of 4+ at 1:2 or higher or a positive cerebrospinal fluid culture for *C. immitis*.^{1, 17}

Isolated peripheral granulomas, such as in the epididymis, are seen occasionally. Such illness is benign with near zero mortality. Dissemination that is not apparent occurs but its frequency is not known.^{1, 3}

No therapy is required for mild, self-limited cases of primary coccidioidomycosis except bed rest during the symptomatic phase.^{7, 11} Severe prolonged primary disease, especially in susceptible types of individuals, and when apparently progressive requires intravenous amphotericin B therapy.^{2, 7} If treatment is started early in the course of suspected disseminating disease remission may be expected with a total dosage of 1 to 2 gm. of amphotericin B.⁷

Surgical resection of residual pulmonary lesions of primary coccidioidal disease is usually recommended when there is hemorrhage, disease localized to one lobe, or a cavity greater than four cm. in diameter. Amphotericin B should be given to such patients for three to four weeks before and after surgery.^{2, 11}

The discovery of amphotericin B, reported in 1956, provided for the first time a means for effective therapy of disseminated coccidioidomycosis. Amphotericin B belongs to a group of polyene antibiotics (30 to 40 in number) characterized by from four to seven c=c bonds, by activity against a wide range of fungi, many algae, and at least one protozoan, by being fungicidal to resting cells, and by no significant activity against

bacteria. Its molecular weight is 960 and the drug's empirical formula is $C_{46} H_{73} NO_{20}$. It is a yellow powder which is only slightly soluble in water. The drug is derived from *Streptomyces nodosus* first found in a soil sample from the Orinoco river valley of Venezuela. Coccidioidal infection is more resistant and less responsive to the antifungal effect of amphotericin B than the other pathogenic fungi and more intensive and prolonged therapy is required for its control.^{2, 11, 13}

Amphotericin B is available in a preparation containing also desoxycholate and sodium phosphate buffer. When mixed in five per cent dextrose and water this yields a colloidal suspension which is clear to the naked eye and which is stable long enough to allow infusions to run several hours.¹¹

Only a little is known about the fate of amphotericin B once it leaves the blood. There is some indirect evidence that it is taken up by reticuloendothelial cells. Only a small portion is excreted in an active form in the urine. Spinal fluid concentrations are 1/30 to 1/50 those of serum (higher with a marked increase in cerebrospinal fluid protein).¹³

Idiosyncratic side reactions which may occur with the use of amphotericin B include anaphylactoid shock, thrombocytopenia, acute liver failure, flushing, vertigo, generalized pain, grand mal convulsions, cardiac arrest and ventricular fibrillation.¹³

Frequent side effects from intravenous administration of the drug include phlebitis, fever, chills, nausea, vomiting, headache, anorexia, hypokalemia, anemia and renal toxicity. The intensity of these side effects has more than once led patients to refuse to continue treatment, even when confronted with the knowledge that the disease may be fatal. The subjective reactions may be somewhat controlled by slow administration and gradually increasing the dose to an average of 1 mg./kg. body weight. Children have less difficulty with side effects and may tolerate doses of 1.5 mg./kg. The drug must be diluted to at least 10 cc. of five per cent dextrose in distilled water for each mg. of amphotericin B. Heparin sodium, 10 to 20 mg., in the solution minimizes phlebitis as does the use of small needles. Patients may be pretreated with aspirin and antihistamines

to help control fever and chills. Phenothiazines may be used to control nausea and vomiting. Hydrocortisone, 30 to 60 mg., in the solution is safe and is also useful in controlling subjective side effects. Hypokalemia should be treated by oral or intravenous potassium.^{2, 11, 13}

The anemia induced by amphotericin B is normochromic and normocytic. It is not related to the blood urea nitrogen elevation associated with therapy but is probably a result of suppression of red cell production superimposed on a mild pre-existing hemolysis due to the systemic coccidioidomycosis infection.¹⁹

Nephrotoxicity seems to be of two types. Functional impairment, possibly by the mechanism of diminished effective renal plasma flow, is manifested by an elevated blood urea nitrogen and creatinine, diminished clearness of urea, creatinine, inulin, and PAH, hyposthenuria, and diminished phenosulfonthalein excretion. This impairment is probably reversible in patients with total doses of amphotericin B of less than 4 gm. Persistent functional impairment is likely to occur in doses of over 4 gm. Doses of over 10 gm. have, in some cases, been associated with progressive renal failure, even after cessation of the drug, resulting in death. This type of renal damage seems less severe in patients given the drug on an every-other-day schedule as opposed to daily.^{2, 17, 20, 21}

The second type of nephrotoxicity is not related to the dosage or to the degree of functional impairment. Furthermore, it is apparently irreversible. This consists of tubular necrosis and associated calcium deposition. Less constantly observed are glomerulonephritis-like changes in the juxtamedullary glomeruli. These changes have been seen with as small a total dose as 700 mg. of amphotericin which had been given on an every-other-day basis in the absence of azotemia.^{17, 20, 21}

It is generally recommended that the regimen of amphotericin B be so adjusted or interrupted that the blood urea nitrogen is kept under 50 mg. per cent. Furthermore, a maximal dose of 5 gm. should not be exceeded ordinarily. The necessity to preserve life, however, would justify committing the patient to some permanent loss of renal function.^{2, 17, 21}

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Treatment should begin with a dose of 1 to 5 mg. Subsequent doses are increased by increments of 5 to 10 mg. until 1 to 1.5 mg./kg. daily or every other day is achieved. A minimum of two hours should be allowed for each infusion. Ideally, therapy is continued until cultures are negative, white cell count normal, chest x-ray stable, erythrocyte sedimentation rate normal, and complement fixation titer has fallen to a low level of 1:4 or below.⁷ With such treatment, the concomitant use of indicated and definitive surgical procedures, such as drainage of abscesses, resection of sinuses, removal of infected bone, and cauterization of verrucous or ulcerating skin lesions is required.^{1, 2, 11}

Coccidioidal meningitis is the most resistant form of coccidioidomycosis to treatment. It requires combined intravenous and intrathecal therapy with amphotericin B. Intraspinal administration of the drug has been accompanied by reaction in 15 per cent of injections and in 63 per cent of patients. These include pain at the site of injection, radiculitis, transient palsies, motor weakness, paraplegia, headache, difficulty voiding, chemical and bacterial meningitis, and impaired vision. Intrathecal amphotericin B can be given by lumbar puncture or puncture of the cisterna magna. Winn² gives four injections weekly alternating between the cisternal and lumbar routes. A dose of 0.025 mg. is used initially and gradually increased to 0.5 or 1 mg. The drug should be diluted in sterile water to a concentration of 0.25 mg./cc. The correct dose is then further diluted several times with spinal fluid before injection.^{2, 11, 18}

When cerebrospinal fluid complement fixation reversion has occurred and the cell count, glucose, and protein return toward normal, the patient may be followed on a

regimen of 0.5 mg. once weekly suppressive intrathecal therapy and no intravenous therapy. This is continued at least three months.²

Strong immunity to coccidioidomycosis can be induced in mice and monkeys by inoculations with live organisms (as few as ten viable arthrospores). This cannot be recommended for human beings because to date no stable attenuated strains of *C. immitis* have been produced. Work with killed vaccines has not been successful.^{15, 22} □

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According to the Pharmaceutical Manufacturers Association, pharmaceutical industry research spending on medical products is almost nine times more than it was in 1950, increasing from \$39 million in 1950 to \$346 million in 1965.

ABSTRACT

COLLABORATION IN THE PROTECTION OF A PRESIDENT

This paper indicates how a psychiatric consultant could help police in order to protect a president. Four areas are discussed: the use of a psychiatrist as a consultant; the development of special training methods; familiarization of officers with mental illness patterns; and the use of police-psychiatry advisory boards to the mass news media.

One aspect where consultation could be of help would be in the evaluation of crackpot letters. This would involve a retrieval system that would be programmed to indicate which type person would be most likely to assassinate a president. A psychiatrist could help assure that officers involved in protecting the president are in peak physical and emotional status to provide sustained, concentrated attention. Advice could also be given to provide better downward communication between executives and those who carry out the orders.

Special training methods could be instigated such as the tachistoscope for flash identification of persons who possibly could be involved in an assassination attempt. Simulated environment situations could be used to train police personnel in proper reactions. Psychiatrists could give advice on who would make the best candidates for presidential protection.

Psychiatrists could assist in teaching about mental illness through seminars, lectures and teaching machines. Specifically the method of operation and personality traits of president killers could be emphasized to groups charged with presidential safety.

It is suggested that the mass news media could be used to influence public opinion in its attitude toward presidential exposure for instance in "rank busting" when the president goes into large crowds with little chance for adequate protection.

EDITOR'S NOTE: It all sounds good for protection of the president, but one may feel uneasy about how important machines, computers, etc. are becoming and will become in our lives. In an exaggerated view one can visualize the police becoming like and controlled by machines. The problem then is who controls the machines.

Collaboration in the Protection of a President, Chester M. Pierce and John E. Gould, *Corrective Psychiatry and Journal of Social Therapy*, 10: 6, 1964.

DANGERS OF HYPNOSIS

There are several dangers to a patient undergoing hypnosis. Psychiatric illness may be precipitated, an existing one made worse, or a patient in remission may have a recrudescence of symptoms. Interminable hypnotherapy can occur in patients with passive dependent and hysterical character disorders. Although it is difficult to assess the danger, apparently sexual seduction and criminal activity have been induced under hypnosis.

The hypnotist himself as a result of his ability to induce hypnosis may become convinced that he is superior to other people and develop into a grandiose professional cripple. He may also become too one-sided

and become pegged as a lopsided scientist or practitioner. There have been a number of psychiatric disturbances precipitated in operators by their pre-occupation and devotion to the method. Finally there is the risk of a law suit. With the legal precedents in an unsettled state it behooves the operator to be circumspect regarding the use of hypnosis.

The success of hypnotherapy may lead to unrealistic public expectation. Dramatic failure in unsophisticated utilization of hypnosis could react adversely on psychotherapy in general. The authors also warn of the hazard of non-physician hypnotists being accepted as de-facto psychiatrists.

Hypnotists run the danger of being ridiculed as crackpots by their peers. There is the additional danger of cultism and mutual destruction by factions in hypnotherapy.

In order to minimize or eliminate the above dangers, the authors suggest more clinical and basic research to define the indications and contraindications to hypnosis.

Incorporation of information about hypnosis as a part of undergraduate teaching is suggested along with advanced courses as a part of psychiatric training. Strict legal curtailment of the use of hypnosis for entertainment or by amateurs is urged. Overcommitment to hypnosis to the exclusion of other psychotherapeutic measures should be avoided. It is suggested that the AMA and American Psychiatric Association assume responsibility for training and setting standards for hypnotherapy. Finally, it is urged that careful surveys of the known dangers of hypnosis and its factual, objective, presentation in the literature and before appropriate professional meetings be promoted.

Dangers of Hypnosis. Louis J. West, M.D. and Gordon H. Deckert, M.D. *Journal of the American Medical Association* 192: 9-12, April 1965.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Studies on the Cardiovascular Effects of Synthetic Eledoisin, Jiro Nakano, *The Journal of Pharmacology and Experimental Therapeutics*, 145: 71, July, 1964.

Notes on the Cytology and Sexuality of Puffballs, E. Silver Dowding, and Glenn S. Bulmer, *Canadian Journal of Microbiology*, 10: 783-789, 1964.

The *In Vitro* Production of Abortive Fructifications of *Lycoperdon pusillum* Pers. Glenn S. Bulmer, *Proceedings of the Oklahoma Academy of Science*, XLIV: 192-195, 1964.

Evidence for Antibody-free *Straphylococcus* Fibrinogen Reactions. J. Rotter, S. Alami, and F. C. Kelly. *J. Bact.*, 88: 6, 1964.

Ultrastructural Changes in Stratum Corneum Induced by Ultraviolet Light. Thomas E. Nix, Jr., Robert E. Nordquist, and Mark A. Everett, *The Journal of Investigative Dermatology*, 43: 301, Nov., 1964.

Evaluation of Protection with Phenoxy benzamine against Lethal Endotoxin Shock, F. D. Masucci, L. B. Hinshaw, *Proc. Soc. Exptl. Biol. Med.* 116: 1057, 1964.

BOOKS AS CLINICAL TOOLS

USEFUL REFERENCES IN CLINICAL HEART DISEASE

—John M. Kalbfleisch, M.D.
Department of Medicine
University of Oklahoma
Medical Center

"Read with two objects: first, to acquaint yourself with the current knowledge on a subject and the steps by which it has been reached; and secondly, and more important, read to understand and analyze your cases."

—Osler

In cardiology as in other areas of medicine, the rate and magnitude of the growth of new knowledge may seem overwhelming to the clinician attempting to provide his patients with the best possible care. Only a few short decades ago a given heart murmur was diagnosed as aortic stenosis and the patient treated expectantly. Now we are confronted with the need to know the gradient across the lesion and whether it is supra-valvular, valvular, subvalvular, membranous, calcific, or muscular. The prognosis as well as medical and surgical treatments are ascertained accordingly. Where does the clinician turn when faced with such diagnostic problems?

While standard textbooks have difficulty keeping pace with the rapid diagnostic and therapeutic developments, basic disease descriptions and the knowledge of general diagnostic principles and pathophysiological mechanisms evolve more slowly. An excellent source book is Wood's "Diseases of the Heart and Circulation."¹ Although this book is nine years old and currently out of print, if you can beg, borrow, or steal a copy, it would be to your advantage. Hopefully, Doctor Wood's colleagues will complete the

revision of this invaluable textbook. Friedberg's textbook, "Diseases of the Heart,"² is in the process of revision and the third edition is scheduled to appear in the near future. It is a useful reference source, and contains an excellent bibliography. A new textbook edited by J. Willis Hurst with contributions by many prominent authors, is scheduled for publication later this year by Blakiston and should update many topics.

For reviewing or sharpening techniques in physical diagnosis, "Auscultation of the Heart"³ by Levine and Harvey is recommended. McKusick's textbook, "Cardiovascular Sound in Health and Disease,"⁴ is excellent also, but not as practical for the clinician pressed for time.

The authoritative "Pediatric Cardiology"⁵ written by Nadas is probably the best reference for those physicians confronted with heart diseases in patients of the pediatric age group. The sections on congenital heart disease are particularly good.

Finally, the multitude of textbooks appearing in the field of electrocardiography attests the lack of an easily understandable coverage of a much maligned subject. Grant's textbook, "Clinical Electrocardiography,"⁶ remains as readable and intelligible as any which have appeared subsequently.

The American Heart Association has published a series of clinically useful pamphlets on hypertension, congestive failure, angina pectoris, myocardial infarction, congenital heart disease, and many other subjects for patient education. These can be obtained by writing the Oklahoma State Heart Association, 825 N.E. 13th Street, Oklahoma City, Oklahoma 73104.

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2. Friedberg, C. K.: Diseases of the Heart, 2nd ed. Philadelphia, W. B. Saunders, 1956.
3. Levine, S. A. and Harvey, W. P.: Clinical Auscultation of the Heart, 2nd ed. Philadelphia, W. B. Saunders, 1959.
4. McKusick, V. A.: Cardiovascular Sound in Health and Disease, Baltimore, Williams and Wilkins, 1958.
5. Nadas, A. S.: Pediatric Cardiology, 2nd ed. Philadelphia, W. B. Saunders, 1963.
6. Grant, R. P.: Clinical Electrocardiography: The Spatial Vector Approach, Philadelphia, Blakiston Division, 1957.

Mechanism of Anaphylactic Shock

CHING CHUNG CHOU, M.D.

ANAPHYLACTIC SHOCK is a hypotensive state produced by the reaction between sensitized cells and a specific antigen. The term anaphylaxis was first used by Richet,¹ who discovered a dramatic phenomenon while studying the toxicity of the tentacles of sea anemone. He wrote: "The most typical experiment, in which the result was indisputable, was carried out on a particularly healthy dog. It was given at first 0.1 ml of glycerine extract without being ill; 22 days later, as it was in perfect health, I gave a second injection of the same amount. In a few seconds it was extremely ill; breathing became distressful and panting; it could scarcely drag itself along, lay on its side, was seized with diarrhea, vomited blood and died in 25 minutes." Anaphylaxis involves two main steps: 1) sensitization of the host with single or repeated exposure to an antigen and 2) introduction of the antigen to the sensitized host. The latent period, i.e., the time required for sensitization, varies with different species and with the degree of sensitization. This period may vary from seven or eight days to three or four weeks. Anaphylactic shock from penicillin injection has aroused attention in the medical profession in the past two decades. The reaction is independent of the type of penicillin and route of administration. It is usually induced by repeated courses of penicillin, and occurs more frequently in those persons who are subject to other allergies.

Anaphylactic shock is produced by release of endogenous toxic agents. How the antigen-antibody complexes release these intracellular chemical agents is still not clear. Several endogenous agents, e.g. histamine,

heparin, serotonin, and bradykinin, have been proposed as responsible agents which induce anaphylactic shock. Of these agents, histamine seems to be the most widely accepted mediator.

Although anaphylactic shock is a generalized phenomenon, the response varies from species to species. The differences are most likely related to special anatomic structure. Responses peculiar to some species include: portal hypertension in dogs; pulmonary hypertension and right ventricular failure in rabbits; and violent bronchial constriction in guinea pigs.² No detailed study on the hemodynamic changes in anaphylactic shock in the human is available. It is the purpose of this communication to review the mechanism of anaphylactic shock in accordance with the scheme proposed by Haddy.³

There are four general causes of hypotension: decreased peripheral resistance, low heart pumping ability, low effective blood volume and low absolute blood volume (figure 1). These parameters have not been adequately studied during experimental anaphylactic shock. Furthermore, the available studies suggest that the abnormalities are not the same in all species.

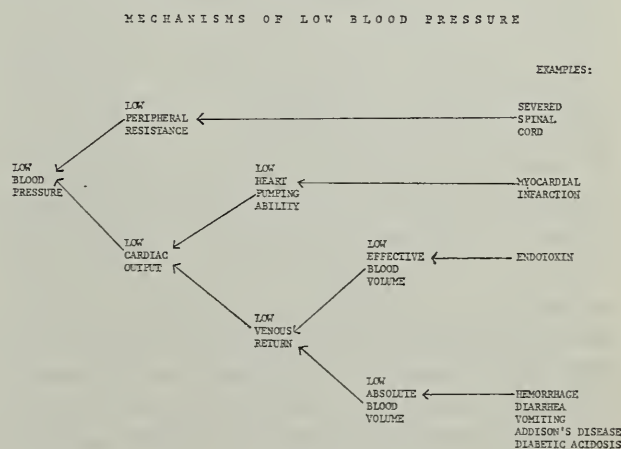


Figure 1.

From the Department of Physiology, The University of Oklahoma Medical Center, Oklahoma City, Oklahoma.
Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

In the dog⁴ the hypotension is associated with a marked lowering of the cardiac output. Unlike the guinea pig and rabbit, electrocardiographic evidence of myocardial ischemia and arrhythmia is not seen.⁵ Microscopic examination of the myocardium reveals swelling of the myofibrils and a decrease in succinic dehydrogenase.⁴ Hildebrand⁶ thought that cardiac failure is not a primary factor in anaphylactic shock in the guinea pig, and indeed, an increase in the frequency and force of contraction of isolated guinea pig atria during the anaphylactic reaction has been reported. Thus, while decreased cardiac pumping ability may contribute to the low cardiac output, it does not seem to be the primary or only factor.

Absolute blood volume may be decreased secondary to an increase in the rate of water and protein filtration through the capillary wall² and/or because of vomiting and diarrhea. There is hemoconcentration with as much as a 15 per cent increase in hematocrit.⁴ Rapid fluid volume replacement during shock is found to prevent hemoconcentration and to modify the hemodynamic effects.

Decrease in effective circulating blood volume seems to be a primary and dominant factor in the development of anaphylactic shock. In the dog, the most striking finding is congestion of liver and stasis in the portal system. Weil⁷ estimated that as much as 61 per cent of total blood volume is sequestered in the liver. Others observed an almost complete cessation of blood outflow from the liver with an increase in the outflow of liver lymph. Portal venous pressure rises and there is an associated fall in central venous pressure.⁵ Since hepatic capillary pressure rises sharply with a decrease in hepatic and central venous pressures, Melli, *et al.*⁵ suggested that the obstruction to blood flow is at the level of the capillaries or venules rather than, as classically stated, at a sphincter located at the junction between the hepatic veins and the inferior vena cava. These findings, as well as others such as pulmonary arteriolar constriction in rabbits, resemble the findings in endotoxic shock in the dog. There is, however, a fundamental difference between these two conditions; anaphylactic shock is specific and is an antigen-antibody reaction.

The response of the peripheral circulation to anaphylactic shock is not clear. A rise in skin temperature in the initial phase of anaphylactic shock in the dog² suggests vasodilation. On the other hand, peripheral vasoconstriction is found in the guinea pig and rabbit⁶ and total peripheral vascular resistance increases in the dog.⁴ Microscopic observations on the mesentery and lungs in the guinea pig and rabbit reveal agglutination of blood cells which produces emboli, rupture of venules and migration of blood cells out of the venules. The main damage occurs in the venule with the arteriole remaining intact.

The sequential development of anaphylactic shock in dogs, therefore, seems to be: decrease in absolute and effective blood volume, decrease in venous return, a lowered cardiac output and hypotension (see figure 1). In the rabbit and guinea pig, coronary ischemia causing failure of pumping ability may be a contributory factor. The mechanism of anaphylactic shock in humans needs study. It is possible that the mechanism is similar to that suggested for dogs.²

Many pharmacologic agents have been used for treating anaphylactic shock. These include sympathomimetic agents, antihistamine, and adrenal cortical hormones. Epinephrine and norepinephrine (Levophed) have proved to be useful agents in emergency cases. Epinephrine 0.2-0.5 cc (1:1000) can be given slowly intravenously. Antihistamines are also effective in humans and dogs. Benadryl, 100 mg, may be given intravenously. The efficacy of adrenal cortical hormones needs critical evaluation. If vomiting and diarrhea are associated with shock, fluid and electrolyte imbalance must be corrected. Since asphyxia is also a common cause of death, an adequate airway must be maintained. Aminophylline, oxygen and sometimes tracheotomy may prove beneficial. □

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SPECIAL DELEGATES' SESSION ON MEDICARE, BYLAWS

Reflecting the turbulent times now confronting the medical profession, the Oklahoma State Medical Association's House of Delegates is being called into special session on October 24th to formulate an official reaction to the Medicare law.

The special meeting is a follow-up to the 1965 annual meeting in Tulsa, where delegates sidestepped the issue of "non-participation" in the Medicare scheme. In response to a resolution calling for non-participation, the delegates approved a reference committee report which called for deferring action until such time as the Medicare bill should receive Congressional approval.

Although President Johnson signed the measure into law on July 30th, the calling of the special House of Delegates meeting was delayed due to the limited information available at the time of passage concerning administrative rules and procedures.

In the meantime, the legality of invoking a non-participation policy has been seriously questioned by the legal counsel of the American Medical Association.

AMA attorneys say that physicians, both individually and collectively, may freely criticize Public Law 89-97 and may seek its repeal or modification; and they support the right of an individual physician to refuse to participate. However, they express the further opinion that physicians acting in concert to stay clear of the Medicare program are exposing themselves to the application of the Sherman Antitrust Act.

The AMA statement said, in part: "The basic principle of antitrust laws is to prohibit private restraints which operate to impede a competitive economy; and action by an organized group of individuals in re-

fusing to deal with others has been held illegal. When such restraints adversely affect those engaged in providing health services, such as hospitals, nursing homes and carriers, relief may be provided by law. The Sherman Antitrust Act delegates to the courts broad powers to interpret and apply the prohibitions of the law, case by case, in civil and criminal actions brought by the Department of Justice and by private persons.

"Conspiracy under the antitrust laws may emanate from a common understanding or an express or implied agreement. In a number of cases involving medical organizations, statements of policy by the organization, such as resolutions and 'ethical' rules of conduct have been interpreted as evidence of conspiracy under the particular facts and circumstances."

Regardless of the AMA attitude, the leadership of the Oklahoma State Medical Association is obligated to place the question of non-participation before the House of Delegates at the October 24th meeting.

According to C. M. Hodgson, M.D., Speaker of the House of Delegates, resolutions on the subject will be received early in the session and referred to a reference committee. The reference committee will conduct an open hearing before the entire assembly, and then will go into executive session to draft a report and recommendations. The House will reconvene to vote on the reference committee report.

It is anticipated that the special session will be closed to the public and the press, but all members of the association are welcome to participate in the open hearings. The meeting will commence at 10:00

a.m., October 24th, in the auditorium of the Oklahoma City Homebuilders Association, located next door to OSMA headquarters in Oklahoma City.

County medical societies are being contacted in advance of the meeting in regard to the differing points of view on the non-participation issue, and they are being asked to hold special meetings in advance of the OSMA meeting in order to advise their respective delegates to the state association.

Constitution and Bylaws

The only other item to be considered at the special House of Delegates session is also a carryover from the 1965 annual meeting. Last May, the Constitution and Bylaws Committee submitted a revised constitution and bylaws for the consideration of the House. However, the reference committee reported that there was insufficient time to review the lengthy document, and it was recommended that the subject be brought up subsequently at a special 'constitutional convention' session, thus enabling the reference committee and the Constitution and Bylaws Committee to work out any necessary amendments during the interim.

The document has now received approval of the reference committee, and a full report with recommendations for implementation will be presented to the House of Delegates. No additional hearings are scheduled on this subject.

The special meeting has been arranged to immediately precede the opening of the Oklahoma City Clinical Society meeting, one of the state's largest and most popular scientific programs. □

Opportunities for Continuing Education In Oklahoma

At a time when the medical profession is being criticized in Washington for an alleged "gap" between medical research progress and its application to patient care, Oklahoma physicians have an abundant variety of high-quality postgraduate education courses available at their doorsteps.

Kelly M. West, M.D., Professor of Continuing Education at the University of Oklahoma School of Medicine, has compiled a preliminary calendar of special courses emanating from the medical school during the coming year. The calendar of courses, some of which are jointly sponsored by the Oklahoma State Medical Association, appear immediately following this article.

According to Doctor West, the listed courses are only a part of the several means by which the medical center is attempting to assist physicians in the difficult task of maintaining superior professional competence.

In addition to courses scheduled in facilities of the school, six OSMA-OU courses are planned for presentation at Ada, Bartlesville, Altus, Woodward, Ardmore and Enid, and two special weekend sessions are scheduled for September and June

at the new Arrowhead and Fountainhead lodges on Lake Eufaula.

The medical center and the association are also pioneering in the field of educational television. Through the efforts of Irwin H. Brown, M.D., Director of the OU Medical Center's Postgraduate Office, a series of postgraduate courses is offered each Spring through the cooperation and financial assistance of the OSMA. The programs are televised on Channel 10 (Tulsa) and Channel 13 (Oklahoma City) on selected dates at prearranged times following the regular broadcasts. A calendar of the 1966 television programs will be mailed to state physicians within the next few months.

The medical center has become a charter member of a national network of medical television broadcasters, providing for national distribution of the Oklahoma programs and for accessibility to programs produced elsewhere.

Teaching Conferences

Besides the special postgraduate courses, physicians may take advantage of other opportunities for continuing education by participating in the regular conferences and teaching activities at the medical center. A list of these activities appears following this article.

The staff of the Postgraduate Office (Room 121 at the medical school building, telephone extension 440) is available Monday through Friday to assist visitors or potential visitors

who may not be acquainted with the nature, function or location of these teaching activities.

Short-Term Fellowships

The medical center also hosts physicians who wish to devote a specific period of time in continuing self-education at the center, Doctor West explained.

For example, last year two internists and one general practitioner spent one week each pursuing courses of special education designed for their particular needs. Included in these experiences were participation in selected rounds and conferences as well as prescribed reading related to subjects of immediate relevance to their respective practices. In one case, the physician's small personal library was reviewed and suggestions made for the addition of a few key clinical references to assist the self-education project.

Other "personalized" educational projects have included regular visits of four to eight hours every week in relationship to a specific clinical goal. Last year, fourteen practitioners, twelve of whom were general practitioners, devoted eight hours per week to fellowships in psychiatry.

Doctor West observed that these programs "are not cheap residencies, but are designed to help the physicians perform more competently those functions for which they are already responsible, and to improve the capacity for self-education."

Doctor West is available to discuss with any physician the possibility for a personally tailored "self-renewal" experience at the medical center. Such a program, he explained, could be planned in a variety of ways for a variety of purposes; it could provide for some teaching functions as well as for learning and learning to learn; it could be as brief as three days or as long as three months; or, it might be programmed for four to eight hours a week.

All interested physicians are urged to contact Doctor West at the medical center by letter or telephone.

Pathologist Joins OU Faculty

A. Laurence Dee, M.D., former clinical assistant professor of pathology at Stanford University School of Medicine, has assumed duties as professor and chairman of the Department of Pathology at the University of Oklahoma Medical Center.

Arriving in August, he succeeded William E. Jaques, M.D., now a visiting professor for the National Defense College of Medicine in Taiwan.

Doctor Dee was graduated from Johns Hopkins University School of

Medicine in 1951. He interned at Stanford Hospital and took his residency at the Ft. Miley VA Hospital in San Francisco. He was laboratory director at Antelope Valley Hospital, Lancaster, California, for three years and also consulting pathologist to the Edwards Air Force Base Hospital.

The pathologist returned to Johns Hopkins to join the faculty in 1959 and moved to Palo Alto in 1962. He was on the active staff of the Stanford-Palo Alto Medical Center. □

POSTGRADUATE COURSES 1965-66

September 19	*Clinical Considerations in Allergy and Infection	Arrowhead Lodge Eufaula, Okla.
October 13	What's New in Surgery	Medical School
October 16-17	Basic Science in Dermatology	Arrowhead Lodge
November 10	Hearing Loss in Everyday Practice—What to do—current concepts	Medical School
January 6	<div style="display: inline-block; vertical-align: middle; font-size: 3em; line-height: 1;">}</div> <div style="display: inline-block; vertical-align: middle;"> *The Ovary *The Blood *The Thyroid *The Ovary *The Blood *The Thyroid </div> <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> This series of decentralized courses is held in various parts of the state. Basic science, diagnosis and treatment of the "organ system" under discussion is the theme of each of these regional programs. By rotation of subjects and locations, a broad coverage of topics is presented to the physicians of the state. </div>	Ada, Okla.
January 20		Bartlesville, Okla.
January 27		Altus, Okla.
February 3		Woodward, Okla.
February 17		Ardmore, Okla.
February 24		Enid, Okla.
February 21-26	Clinical Cardiology This course emphasizes the application of principles of physical diagnosis, x-ray examination, and electrocardiography to diagnosis and management of cardiac disorders. Discussion is centered around written case material selected to illustrate the didactic material as well as around patients actually present in the hospital whom the students are asked to examine. Discussions of the theory and practice of palpation, auscultation and radiography of the heart, cardiac catheterization and angiocardiology will be presented formally as well. Each student will receive a laboratory manual. Student participation in each of the exercises is sought. Ample opportunity for questions and answers is provided for in each exercise. Evening sessions will consist of discussions of therapy of congestive heart failure, cardiac arrhythmias and surgery of congenital and acquired cardiac lesions.	Medical School
February 28-	Basic Course in Electrocardiology	Medical School
March 5	Presentations assume no formal acquaintance with the subject. The essential physical basis of the subject is emphasized throughout. There will be daily practice sessions and review. This course is preparatory to the advanced course which emphasizes the clinical application of electrocardiographic theory and is offered in alternate years. Enrollment is limited to 30 physicians.	
March 3-4	Ophthalmology-Otolaryngology Symposium Annual Spring meeting of interest to those physicians who limit their practice to the fields of eye, ear, nose and throat.	Medical School
March 9	Backache A session designed to help with a frequent and complex problem as seen by the generalist and specialist.	Medical School
March 10-12	Spring Symposia in Gynecology and Obstetrics The central theme for this course will be "Non-operative Gynecology" and will include gynecologic endocrinology, infections, infertility and cancer chemotherapy.	Medical School
April 13	Pediatric Short Course—Subject to be announced A program is planned as an experience within the department.	Medical School
May 11	Endometrium Topics will include: Newer Progestational Agents, Abnormal Uterine Bleeding, Malignant Lesions.	Medical School
May 20	Oklahoma Association of House Staff Physicians Two guest lecturers and presentation of original papers by members of the various house staffs highlight this program.	Medical School
June 10-12	*Subject to be announced A clinical postgraduate course is being planned.	Fountainhead Lodge

*A program in conjunction with the Oklahoma State Medical Association

REGULAR MEDICAL CENTER ACTIVITIES

MONDAY

GYN-OB Staff Conference
Obstetrical Complications Clinic
Chief of Medical Service Rounds
VA Medical X-Ray Conference

8:00 a.m.
10:30 a.m.
3:30 p.m.
5:00 p.m.

Room 8-E, University Hospital
Room 136-E, University Hospital
Ward 6-W, VA Hospital
Room A-945, VA Hospital

Doctor J. Merrill
Doctor W. O. Smith
Doctor S. Traub

TUESDAY

Inter-Departmental Conference
Diabetes Rounds
Medical Center Cardiology Conference
Otolaryngology Grand Rounds
(1st and 3rd Thursday only)

12:30 p.m.
2:45 p.m.
3:00 p.m.
5:00 p.m.

Auditorium, Medical School
Room A-651, VA Hospital
Room 303-E, University Hospital
Room 104-G, Children's Memorial Hospital

Doctors West, Wulff, Heller
Doctor J. Snow

WEDNESDAY

Medical Grand Rounds
Professional Rounds (Medicine)
Behavioral Science Seminar
Gastroenterology Rounds
VA Hematology Rounds
Endocrine Rounds
Chief Medical Service Rounds
Medicine-Radiology Conference

8:00 a.m.
10:00 a.m.
11:00 a.m.
1:30 p.m.
1:30 p.m.
2:30 p.m.
3:30 p.m.
5:00 p.m.

Room 8-E, University Hospital
University Hospital
7th Floor Conference Room, University Hospital
Room 312-A, University Hospital
Hammarsten Room, VA Hospital
Room 303-E, University Hospital
Ward 5-W, VA Hospital
Room 303-E, University Hospital

Doctor S. Wolf
Doctors H. L. Williams and O. Parsons
Doctor J. Welsh
Doctor C. Smith
Doctor W. O. Smith
Doctor S. Traub

THURSDAY

Pediatric Staff Rounds
*Pediatric Radiology Conference
Renal and Electrolyte Rounds
Gynecology Cancer Rounds

8:00 a.m.
1:30 p.m.
3:15 p.m.
4:00 p.m.

Room 104-G, Children's Memorial Hospital
Room 104-G, Children's Memorial Hospital
Room 303-E, University Hospital
Room 200-A, University Hospital

Doctor H. Riley
Doctors M. Wagner and H. Riley
Doctor W. O. Smith
Doctor J. Merrill

FRIDAY

Orthopedic-Surgery-Radiology-Pathology Conference
Medical Conference
Professorial Rounds
Pediatric Specialty Conference
GYN-OB Pathology Conference
*Psychiatry Department Colloquium

8:00 a.m.
11:00 a.m.
3:30 p.m.
4:00 p.m.
4:00 p.m.
4:00 p.m.

Room 104-G, Children's Memorial Hospital
Hammarsten Room, VA Hospital
University Hospital
Room 104-G, University Hospital
Room 158-A, University Hospital
Room A-945, VA Hospital

Doctor D. O'Donoghue
Doctor S. Wolf
Doctor J. Merrill
Doctors R. Edelberg and O. Parsons

SATURDAY

Neurology and Neurosurgery Conference
Surgery Grand Rounds
*Surgery Morbidity-Mortality Conference
*Surgery Residents Presentation
*Professorial Rounds (by Appointment)

8:00 a.m.
8:00 a.m.
9:00 a.m.
10:00 a.m.
11:00 a.m.

Room 303-E, University Hospital
Room 8-E, University Hospital
Room 203-D, University Hospital
Room 203-D, University Hospital
Room 203-D, University Hospital

Doctor J. Herrmann
Doctor Schilling
Doctor Schilling
Doctor Schilling

*Mainly of interest to specialists

Points To Head "Project Responsibility"



Thomas C. Points, M.D., obstetrician and gynecologist, has joined the full-time faculty of the University of Oklahoma Medical Center and is serving as coordinator of Project Responsibility—the rural and family medicine program launched by James L. Dennis, M.D., dean and director.

In private practice in Oklahoma for 23 years, Doctor Points had served on the voluntary faculty since 1943 and had held appointments in both the departments of Gynecology and Obstetrics and Preventive Medicine and Public Health.

His full-time appointment as assistant professor of preventive medicine was approved in August by the University of Oklahoma Regents. Doctor Points took the M.D. degree at the OU School of Medicine in 1941 and the Ph.D. degree in preventive medicine in 1963.

He gave up his practice earlier in the summer to begin visiting the 30 communities that have asked for consideration as a site for the pilot Project Responsibility clinic-hospital. He has met with civic leaders and addressed community gatherings to outline the proposal and explain the criteria for selecting the first city to participate.

"Major factors will be the town's location in relation to existing medical facilities and the community's

sense of responsibility in supporting the program," Doctor Points said.

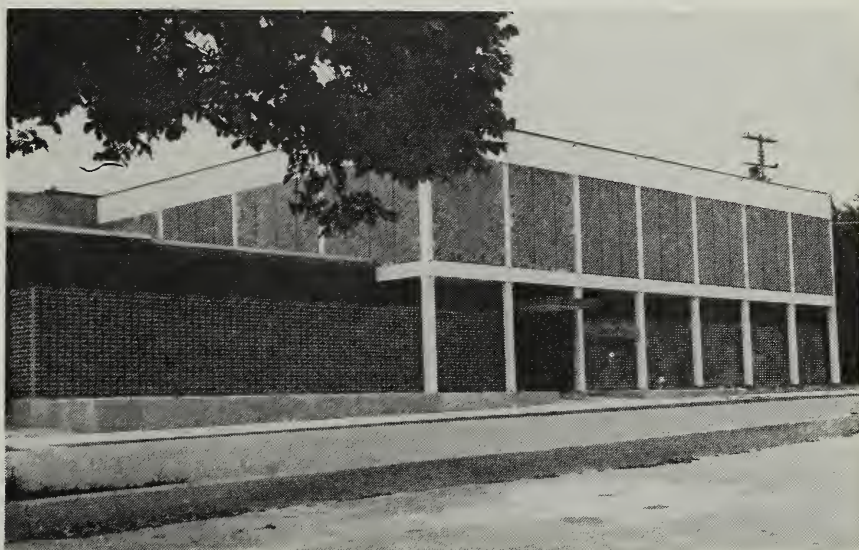
The hope is that the pilot community health center will be built with private resources and staffed by a three-physician team who would provide care for rural citizens and also be an integral part of the medical school's teaching program in family medicine.

Doctor Points also has started work on another phase of the project

—an inventory of doctors, nurses and other health personnel now serving Oklahoma.

This stock-taking not only is basic to the whole Project Responsibility plan of providing family doctors and allied health workers for the "medical have-not areas," but has since been recommended by the State Regents for Higher Education as an outgrowth of their extensive study of medical education in Oklahoma. □

McAlester Medical Facilities Bolstered



McAlester Clinic

McAlester's claim as "The Medical Center of Southeast Oklahoma" has been strengthened by recent major construction projects involving two general hospitals, two private medical clinics, and a community mental health outpatient center.

A special August 20th edition of the McAlester News-Capital honored the city's health care industry, lauding the progress made by the community's medical, hospital and public health groups during the past year. Both the McAlester Clinic and the Medical Arts Building have opened new additions, and a total of over \$1 million in new construction has been completed at St. Mary's Hospital and McAlester General. Hospital facilities now offer a combined capacity of 220 beds.

The Medical Arts Building, which accommodates eight physicians and dentists, added a 3,000 square foot wing in January, 1964. On Sunday,

August 22nd, the McAlester Clinic held an open house to inaugurate its \$375,000 modernization and expansion of clinic facilities. Fifteen doctors now serve the McAlester Clinic, but the expanded facilities will allow for five more.

McAlester's physicians offer a broad range of professional services to the widening trade territory served by the city's health care industry. General practice, radiology, dermatology, obstetrics and gynecology, orthopedic surgery, general surgery, pediatrics, anesthesiology, internal medicine, ophthalmology and otolaryngology are among the specialized practices represented.

A new facade, renovation, and doubling of working space through a second-floor expansion highlighted the McAlester Clinic's \$375,000 modernization and expansion project dedicated by a community-wide open house on August 22nd. □

BEVERLY HILLS HOSPITAL

BEVERLY HILLS CLINIC

CONTEMPORARY PSYCHIATRY

INPATIENT
OUTPATIENT

DALLAS, TEXAS
FE 1-8331

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john t. holbrook, m. d.
traudl e. jordan-diener, ph. d.
william r. garretson, m. a.

OSMA To Seek Reasonable Fees for Welfare Work

The Public Welfare Committee of the Oklahoma State Medical Association has advised the Department of Public Welfare that the association will expect 100 per cent payment for professional services rendered to welfare clientele beginning January 1, 1966.

According to committee chairman Bertha M. Levy, M.D., Oklahoma City, action of the OSMA House of Delegates last May and the general attitude of physicians leave little doubt that Oklahoma physicians are tired of subsidizing the health care costs of a significant portion of the population for which the state and federal governments have assumed ostensible responsibility.

Physicians caring for persons on public assistance are presently receiving 63.75 per cent payment of a

surgical fee schedule developed several years ago, and payments for the cost of inpatient medical cases have been reduced from a maximum allowable of \$75.00 in 1958 to \$35.00 today.

Last May the association's House of Delegates approved a report calling for the Department of Public Welfare to pay 100 per cent of the fee schedule being used by the Dependents' Medical Care Program (the original welfare fee schedule was patterned after the schedule used for dependents of servicemen, but only a percentage of the prescribed fees has ever been paid).

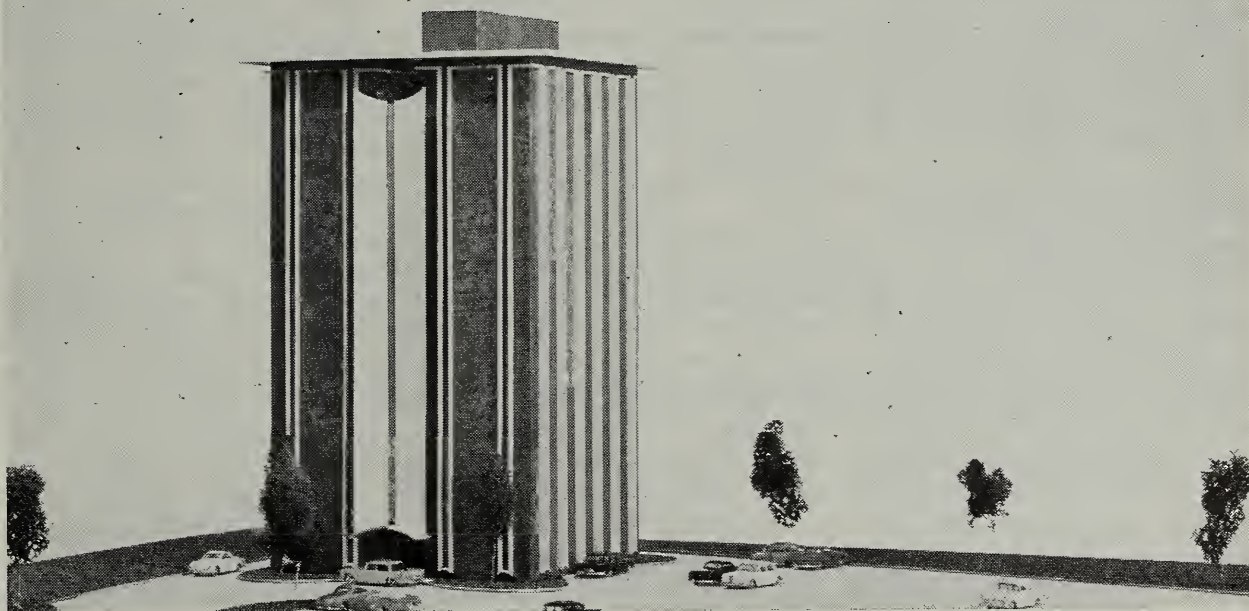
Demand for 100 per cent payment is a departure from the long-standing policy of the House of Delegates that services to indigents should be provided at reduced fees.

It was the unanimous opinion of the Public Welfare Committee that the rationale of providing charitable services to persons who are the re-

sponsibility of government is not justified from either an economic or humanitarian standpoint. It is no longer a question of doctors helping financially-distressed persons who need help, but is purely a matter of expecting the government to pay reasonable fees for the health care services promised to its beneficiaries.

Doctor Levy explained that many physicians have been perfectly willing to work for reduced fees in an effort to make the Kerr-Mills program an effective deterrent to the Social Security Medicare scheme. "Now that Medicare has become law," she said, "the Kerr-Mills concept has been abridged and physicians do not feel any compulsion to provide services to the government at less than their value."

All members of the OSMA will be kept apprised of developments in the negotiation of a reasonable fee schedule for welfare work. The Public Welfare Committee plans to issue



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a newsletter on the subject periodically to the entire membership of the OSMA.

Crippled Children's Pay

After three years of negotiation for professional compensation under the Crippled Children's Program, the outlook is promising that payment to physicians can commence next January.

The Professional Advisory Committee on Medical Care of Crippled Children (Department of Public Welfare) recommended on August 5, 1965 the initiation of payment to physicians for the care of crippled children, "if additional federal funds are made available . . ."

There is every reason to believe, Doctor Levy concluded, that additional federal funds are going to be available in 1966 to initiate payment for crippled children's work and to raise professional fees for all welfare programs to a realistic level. "We are optimistic that the Department of Public Welfare and the Oklahoma Public Welfare Commission will do everything possible to make certain that fair compensation is offered to physicians." □

Oklahoma City Clinical Society To Meet In October

Fifteen prominent guest lecturers have accepted invitations to appear on the program of the thirty-fifth Annual Fall Conference of the Oklahoma City Clinical Society to be held at the Sheraton-Oklahoma Hotel, October 25th, 26th and 27th, 1965. The speakers have been selected from medical and teaching centers throughout the United States because of their popularity and ability in the specialties they represent.

Adding interest to the general assemblies will be specialty lectures each afternoon in classrooms adjacent to the general assembly; three breakfast meetings will be held on Tuesday morning at 7:30 a.m. in the specialties of surgery, medicine and obstetrics-gynecology; and, round-

table discussions with the guest speakers will be featured each day at noon.

On Monday evening, October 25th, a social hour will be followed by specialty group dinners. Highlight of the meeting will be Tuesday evening, October 26th, when the Annual Clinical Society banquet will be held in the Persian Room of the Skirvin Tower Hotel. This is the one meeting of the conference to which physicians may bring their wives and guests. Special entertainment will be provided following the dinner.

A program of entertainment is being planned for the wives of attending physicians, which will include a style show and luncheon.

Speakers Listed

Appearing on the program will be: Arthur Baptiste, Jr., M.D., (Obstetrics), Indiana University School of Medicine, Indianapolis, Indiana; Earl J. Boehme, M.D., (Surgery), Loma Linda University School of Medicine, Los Angeles, California; Audrey K. Brown, M.D., (Pediatrics), University of Virginia School of Medicine, Charlottesville, Virginia; Michael E. DeBaakey, M.D., (Surgery), Baylor University College of Medicine, Houston, Texas; Thomas F. Dillon, M.D., (Gynecology), Cornell University Medical College, New York City; George Cooper, Jr., M.D., (Radiology), University of Tennessee College of Medicine, Memphis, Tennessee; George C. Griffith, M.D., (Medicine), University of Southern California School of Medicine, Los Angeles, California; R. H. Flocks, M.D., (Urology), University of Iowa College of Medicine, Iowa City, Iowa; S. Benjamin Fowler, M.D., (Orthopedic), Vanderbilt University School of Medicine, Nashville, Tennessee; J. Donald Gass, M.D., (Ophthalmology), University of Miami School of Medicine, Miami, Florida; Robert C. Horn, Jr., M.D., (Pathology), Henry Ford Hospital, Detroit, Michigan; Oglesby Paul, M.D., (Medicine), Northwestern University Medical School, Chicago, Illinois; William H. Sewell, M.D., (Thoracic Surgery), V.A. Hospital, Oteen, North Carolina; M. Stuart Strong, M.D., (Otolaryn-

gology), Boston University School of Medicine, Boston, Massachusetts; and, R. K. Winkelmann, M.D., (Dermatology), Mayo Foundation Faculty Graduate School, University of Minnesota, Rochester, Minnesota.

Twenty-four hours credit, category 1 has been approved for the conference by the American Academy of General Practice.

A registration fee of \$25.00 covers all events for the meeting. Advance registration may be mailed to the Oklahoma City Clinical Society, 2809 Northwest Expressway, Oklahoma City, Oklahoma. □

"Doctor Sanders Day" Observed by Boley

Hundreds of men, women and children, both friends and patients, gathered in Boley, Oklahoma, August 22nd to honor H. S. Sanders, M.D., Boley physician, who has served the community and other Eastern Oklahoma towns for over 45 years.

In proclaiming the "Doctor Sanders Day," Mayor Sam Wilcots noted that the honor was being bestowed on one of the town's leading citizens. He was lauded for his untiring efforts, his beneficent spirit and pledge to duty and service.

A ceremony was held on Sunday afternoon in the patio area of the McCormick Motel. A program included many distinguished Oklahomans who thanked Doctor Sanders for his contributions to the community, his deep understanding and appreciation throughout the years of unselfish service.

Doctor Sanders was born in Nacogdoches, Texas and graduated from the University of West Tennessee in Memphis, which later was merged with Meharry Medical School in Nashville. After graduation, his first practice was established at Taft, Oklahoma. He moved from Chandler to Boley in 1924 where he has maintained an office for 41 years. In addition to the many medical, civic and religious affairs in which he was interested, Doctor Sanders found time for his hobbies of farming, raising cattle and hunting. □

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Speech Training To Be Offered

Suffering from acute butterflies when forced to speak before the local civic club? Got a message to tell, but don't know how to organize it? Should you extemporize or speak from a prepared manuscript?

These problems and others will be answered for OSMA and Auxiliary county society officers on November 12th-13th when Smith, Kline and French Laboratories and the OSMA present a "Speech Training Seminar" at Oklahoma City's DeVille Motel.

Heralded as one of the outstanding courses of its type, the seminar is designed to develop the participants' potential as effective speakers, through an intensive, accelerated workshop-type program. The S-K-F instructors are experts, capable of drawing out the best in every student.

Coordinating the seminar for the OSMA will be Lloyd A. Owens, M.D., Oklahoma City, Chairman of the association's Public Relations Committee.

The course was presented last year to the speakers bureaus of the Tulsa and Oklahoma county medical societies. "Closer rapport with the public is absolutely essential in these days of social and economic upheaval," Doctor Owens said, "and the seminar will furnish us with a cadre of well-distributed, capable spokesmen."

The ideal size class is 25-30 persons, but as many as 40 can be accommodated. Prospective participants will be contacted by mail this month, with county society officers having priority for the limited enrollment.

Sessions will run from 9:00 a.m. to 5:00 p.m. each day, featuring a combination of general meetings and small group rehearsal sections. All registrants will be given opportunities to put into practice what they have learned from the instructors, and critiques will be provided in a constructive atmosphere.

Cocktails will be furnished by the OSMA at the conclusion of the first day's session. □

Oklahoma Rheumatism Society Plans Meeting

Two outstanding physicians will be featured speakers at the Annual Meeting of the Oklahoma Rheumatism Society to be held Sunday, October 24th, 1965. The meeting has been planned for the day preceding the Oklahoma City Clinical Society Conference so that physicians may attend both meetings.

Charles Slocumb, M.D., Mayo Clinic, Rochester, Minnesota, will present a paper on "Complication of

Rheumatoid Arthritis" and Arthur Scherbel, M.D., Cleveland Clinic, Cleveland, Ohio, plans to discuss "Clinical Observations in the Use of DMSO." Local specialists in the rheumatic diseases will complete the program.

All interested physicians are urged to attend the sessions which will be held in the Independence Suite of the Sheraton-Oklahoma Hotel, Oklahoma City. □

DEATHS

WESLEY W. DAVIS, M.D.
1915-1965

A Chickasha general practitioner, Wesley W. Davis, M.D., died August 6th, 1965 while on vacation in British Columbia, Canada.

Born in Gracemont, Oklahoma in 1915, Doctor Davis received his medical degree from the University of Oklahoma School of Medicine in 1941. After completing three years of military service during World War II, he established his practice in Chickasha in 1946.

Doctor Davis was active in both church and civic affairs. Among his medical affiliations was his membership in the Phi Beta Pi.

E. B. THOMASSON, M.D.
1887-1965

Retired Duncan physician, E. B. Thomasson, M.D., died in Wichita Falls, Texas, July 29th, 1965.

Doctor Thomasson was born in Kosse, Texas, October 20th, 1887 and graduated from the Fort Worth University Medical Department—later named the Baylor University Medical College—in 1910. He practiced in Velma, Healdton, Holdenville and Marlow before moving to Duncan in 1936. After 53 years of medical practice, Doctor Thomasson retired in 1964.

In 1961, the Oklahoma State Medical Association presented Doctor Thomasson with an Honorary Membership for his outstanding service to humanity and the medical profession.

FRED G. WILHITE, M.D.
1932-1965

A 34-year-old Stigler physician died

in an Arkansas plane crash July 27th, 1965.

A native of Forrester, Arkansas, Doctor Wilhite graduated from the University of Arkansas School of Medicine in 1958. He had practiced in Morrilton, Arkansas before establishing his practice in Stigler.

WILLIAM S. WAMACK, M.D.
1927-1965

William S. Wamack, M.D., 37-year-old Tahlequah physician, died in the crash of his plane near Tahlequah July 29th, 1965.

Doctor Wamack was born September 2nd, 1927 in Bartlesville. He graduated from the University of Oklahoma School of Medicine in 1954 and established his practice in Tahlequah in 1956. Doctor Wamack had been active in both civic and medical affairs in his community for nine years.

SAMUEL H. HAMILTON, M.D.
1879-1965

Samuel H. Hamilton, M.D., a Hughes County physician for over 56 years, died in Holdenville, August 22nd, 1965.

Born in Virginia, Doctor Hamilton moved to Oklahoma in 1900. In 1908, he graduated from the University of Oklahoma School of Medicine and began his medical practice in Hitchita. He moved to Non, Oklahoma in 1909, living there for 56 years.

For over fifty years of loyal service to the medical profession, he was presented a Life Membership by the Oklahoma State Medical Association in 1965. □

BOOK REVIEWS

ANIMAL BEHAVIOUR AND DRUG ACTION. By Ciba Foundation Symposium (Hannah Steinberg, Ph.D., Editor), London, England. Cloth, 491 pp., with 103 illustrations. Boston: Little, Brown and Company, 1964. \$13.00.

This book published in 1964 is the result of a symposium held first at Middlesex Hospital Medical School and secondly at the Ciba Foundation both in England. It is a collection of many papers organized by the co-ordinating committee for symposia on drug action of the biological council. Its intended scope was the role and relations of animal behavior studies which effect the central nervous system.

To generally outline the contents of the book, the titles of the individual sessions will orient the reader to the contents. Session 1: Behavioral Analysis of Drug Action; Session 2: Neurophysiological and Biochemical Correlates of Behavioral Effects of Drugs; Session 3: Factors which Modify Effects of Drugs on Behavior; Session 4: Relevance of Behavioral Effects of Drugs in Animals to Effects in Man; Session 5: The Biochemical Approach; Session 6: The Electrophysiological Approach; Session 7: The Neurophysiological Approach; Session 8: The Pharmacological Approach; Session 9: Extrapolation from Animals to Man; Session 10: Clinical Implications.

The greatest number of papers and discussions were offered by individuals in either pharmacology or psychology, the majority coming from England and also a number from the United States. Because of the interest and general area of competence and experience of these people, the stress was on animal behavior even though some lip service was given to attempts to correlate animal behavior with human behavior.

All of the papers and the discussions following were of the highest calibre with evidence of a great amount of freedom in the discussions. Since these individuals were obvi-

ously aware of each other's work it made the exchange between them particularly interesting and valuable. On page 121 a chart is reproduced, quoted from Donald Lindsley which describes psychological states and the EEG, conscious and behavioral correlates. This chart is included in a paper by P. B. Bradley from the University of Birmingham, entitled "EEG Correlates of Drug Effects."

The material of this paper is particularly of value because it includes with it the various difference pathways both afferent and efferent as well as the reticular and limbic circuits which Bradley feels are involved in the learning process. Out of this paper comes the suggestion that a good deal of the behavioral response of any animal can be seen as related to its need for defense against internal or external threats. Even though the related material and discussions of this paper concerned itself with animal behavior other than human, the suggestions coming out of this relate to current theories of psychiatry that see man's behavior as a reaction to various stresses and adaptational needs.

J. O. Cole and R. E. Edwards from the National Institute of Mental Health in Bethesda, offer some meaty predicative concepts in the use of drugs in man. Their paper "Prediction of Clinical Effects of Psychotropic Drugs from Animal Data" notes all of the partial truths that abound in translating animal data to human. These include: 1. The partial truth that an animal's brain and man's brain differs much more than other organs; 2. Since etiology and pathophysiology of almost all psychiatric conditions are unknown, equivalent disease states cannot be created in experimental animals; 3. All our present effective psychoactive drugs either first showed their special properties in man or are closely related to such compounds; 4. Since many factors other than drugs influence the symptoms of mental illness, it is difficult to ascertain whether any drug can demonstrate clinical efficacy. Doctor Cole then goes on to deal with these partial truths explaining how in hu-

man drug trials he has been able to show the effectiveness of drugs in comparison with other drugs whose action is already known. What is so impressive about this paper and a few of the others is the notation of individual differences between various groups of animals and, certainly within each species, large variations in reaction types and responsiveness to any medication.

It would seem from the chapters on biochemistry and electrophysiology, that there is no relevant or consistent way to screen drugs even when the most sophisticated biochemical and even ionic changes are measured. Before one can measure drug response, a drug base line of behavior must be established. Besides this, the experimentalist must be certain in what manner the animal learns how to learn which is necessary to understand all of the variables that are involved in problem solving.

Paul A. J. Janssen from Beerse, Belgium, in a paper entitled, "Screening tests and prediction from animals to man," ends his paper in the following fashion, "This matter of predicting from animals to men is, in my view, at best a working hypothesis, the reliability of which can only be tested experimentally. I wonder, therefore, whether the description of a pharmacological working hypothesis should be considered an intrinsic part of pharmacology, or whether it belongs merely to the realms of fancy, to be described by those who are interested in that particularly intriguing aspect of mankind which is called psychology." This represents my impression of the entire book, in that the animal studies quoted are excellent and precise demonstrations of scientific methodology. It is, however, in the translation of animal studies to human and even in the intra human pharmacological experiments that we find the greatest difficulty in assessing the motive action, behavioral changes and value of the drug under study. This book is a worthwhile addition to libraries and for individuals involved in the study of drug action.

—Marshall D. Schechter, M.D.

BOOK REVIEWS

(Continued)

CELLULAR INJURY. Ciba Foundation Symposium. A. V. S. DeReuck and J. Knight, Editors. First Edition, cloth, 403 pp., with 81 illustrations. Boston: Little, Brown and Company, 1964. \$12.00.

It seems appropriate to this reviewer to paraphrase the cover jacket description of the contents of "Cellular Injury," since this synopsis is so nicely and succinctly stated. "... 'Cellular Injury' begins with a discussion and review of the lysosome concept in relation to cell damage. The ensuing discussion illuminates tested theories on injury by exogenous, endogenous and humoral agents, on the mechanisms of protection by drugs, on organogenesis and necrosis, and on the fine structure of damaged cells and the lesions produced by viruses."

It is at once apparent from the foregoing description that the symposium on cellular injury (for which the volume being reviewed is simply the printed record) was breathtakingly ambitious in scope. It is a tribute to the planning and organization of the symposium, as well as to the selection and performance of the eminent and renowned participants that it did not founder under the ponderous weight of its formidable title. Readers who may expect textbook completeness of coverage down to minute factual details will be disappointed. Those who will accept this compendium of related topics as refreshingly new commentaries by the participants, based upon their personal work and experiences in their particular field of interest, will be delighted. This is not to say that reviews of previously existing knowledge are ignored or lacking. These are lacking only in the sense of completeness and depth. For example, the section entitled "Fine Structural Lesions Induced by Viruses" could easily be expanded into a textbook of virology (perhaps a temptation difficult to resist.)

The informal discussions following each section sparkle with penetrating questions and erudite comments. As mentioned in the preface, "Ample time was allowed for informal discussion of the papers offered." "Such free and intimate exchanges of ideas in depth are made possible only by limiting the number of those taking part. It is hoped that the complete record of the proceedings here presented will afford the pleasure of vicarious participation to many of those working in the field who could not be invited to attend the meeting." This expressed attitude may at first glance seem to constitute intellectual snobbery, but ruffled feelings on the part of any who may feel unjustly excluded should be mollified by the availability of the proceedings.—E. C. Bracken, Ph.D.

TEXTBOOK OF OBSTETRICS. By John C. Ullery, M.D., Chairman and Professor of Obstetrics and Gynecology, the Ohio State University College of Medicine and Zeph J. R. Hollenbeck, M.D., Professor of Obstetrics and Gynecology, the Ohio State University College of Medicine, Columbus, Ohio. First edition. Cloth, 752 pp. with 295 illustrations. St. Louis, the C. V. Mosby Co., 1965. \$17.95.

This book has been prepared entirely by the staff of the Ohio State University College of Medicine. The

preface states that their aim is to present a "concise but adequate presentation of the proper management of the pregnant patient from conception through involution." No attempt is made to offer encyclopedic coverage of all aspects of obstetrics, nor is there any apparent attempt at synopsis: some areas are widely covered; others are merely inadequately discussed or omitted altogether. Face presentation, for instance, is mentioned only in a 75-word paragraph, while 11 pages are devoted to the histochemical changes occurring in the endometrial cycle, a subject with which the authors have had extensive research experience. Suggestions that suprafundal pressure is more advantageous than mid-forceps in mid-pelvic arrest, or that cervical dystocia is fairly common, will raise the eyebrows of many obstetrical teachers. Chapters devoted to the incompetent cervix, cancer in pregnancy, the acute abdomen in pregnancy and family planning offer excellent information that is not usually encountered in obstetrical textbooks. For a book of this size and expense, Ullery and Hollenbeck's contribution possesses few advantages for the student over less pretentious and less expensive texts. For the practicing physician, resident or specialist, it is inadequately detailed in many important areas.—Warren M. Crosby, M.D. □

Miscellaneous Advertisements

WANTED: General practitioner or internist to associate with Medical Arts Group. No investment. Excellent income guaranteed. Contact E. D. Greenberger, M.D., Medical Arts Building, McAlester, Oklahoma.

MEDICAL SUITES available, Lister Building, 430 N.W. 12th, Oklahoma City, Oklahoma. One 915 square feet, one 918 square feet. All services included. Contact or write Mr. Plater.

WANTED: Internist, board eligible or certified to be associated with twelve-man specialty group, salary open, no investment, early partnership, city of 35,000. Write J. D. Wilson, M.D., King's Daughters Clinic, Temple, Texas.

FOR IMMEDIATE SALE, deceased physician's practice, office building and equipment, including surgical instruments, located at Perry, Oklahoma, population 5,000, trading area, 10,000. May consider long term lease. Write to Mary Louise Simon, Administratrix, 1218 East Rainbow Drive, Perry, Oklahoma.

Miscellaneous Advertisements Continued

FOR SALE—Standard 100 Milli-ampere X-ray. Stationary Anode Tube, with fluoroscopic screen. Excellent condition, older model x-ray. Price, \$1000.00, includes stainless steel developing tank and other accessories. Terms can be arranged.

FOR SALE: Complete, active practice and office equipment. Safe, filing cabinets, typewriter, electric adding machine, refrigerator, microscope, sterilizers; attractive reception room-furnishings, draperies, mirrors, paneled walls, etc. Excellent location. Near four hospitals. Reason: Retirement. Contact Key T, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED: Internist, Pathologist and Physiatrist—board certified or eligible; full time, beginning salary range from \$12,075 to \$18,740 depending on qualifications; many fringe benefits including annual and sick leave, insurance and retirement plans; 390-bed medical and surgical hospital, located in a superlative outdoor recreation area. Contact, Chief of Staff, VA Hospital, Honor Heights Drive, Muskogee, Oklahoma.

PARTNER WANTED: GP or surgeon to join three doctors. We own our clinic building and equipment located only three blocks from modern hospital operated by the Felician Sisters. Excellent salary first year with full partnership at the end of one year to compatible, competent M.D. Contact the Neumann-Ottis Clinic, Okarche, Oklahoma.

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CENTRAL STATE Griffin Memorial Hospital has positions available for general physicians with beginning salaries of \$14,000; the hospital is also seeking applicants for its training program in psychiatry. Resident physicians with Oklahoma license and four years general practice earn \$12,000 annually. Without general practice, \$10,000 first year, \$11,000 second and \$12,000 third year. Many fringe benefits such as paid vacations, sick leave, social security, retirement and rotated night and weekend call. Write Hayden H. Donahue, M.D., Superintendent, Central State Hospital, Box 151, Norman, Oklahoma.

WANTED: Physician, under 35, to assist, then share busy general practice with young G.P. in Long Island area of metropolitan New York. Must have or be eligible for New York license, be able to do uncomplicated OB, and assist at surgery. Salary first year, then increasing percentage to full partnership. Contact Ralph E. Schlossman, M.D., 130-56 Lefferts Boulevard, South Ozone Park 20, L.I., New York.

ANESTHESIOLOGIST: Department Chief—exceptional opportunity in 160-bed general hospital; materials and equipment furnished. Contact Norman Municipal Hospital, Richard C. Luttrell, Administrator, or Wm. R. Patten, M.D., President, Medical Staff.

MISSIONARY-PHYSICIAN is badly needed for new hospital to be opened in February, 1966 on Little Diomed Island off the west coast of Alaska. Anyone interested may secure further information by contacting A. C. Hirshfield, M.D., 908 N.W. 50th, Oklahoma City.

GENERAL PRACTITIONER — salary leads to full partnership opportunity in 26-bed Clinic Hospital. Ideal practice conditions in irrigated area with substantial industry. Write Box 97, Seagraves, Texas.

PROGRESSIVE city of 5,100 desires general practitioner. 25-bed hospital; office space for rent in The Perry Clinic. Excellent opportunity, good income area. Contact A. M. Brown, M.D., Perry Clinic, Perry, Oklahoma.

FOR SALE: Hospital furniture and some equipment. Consists basically of patient room furniture; matched Simmons, with Hi-Lo beds; x-ray equipment and sterilizing equipment. Located in Duncan, Oklahoma. Shown by appointment. For information, contact Fayn Harper, 5414 Forest Lane, Dallas, Texas, Phone EM 3-6341.

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There is general agreement that milder cases of osteoarthritis are preferably treated by simple analgesics. In many patients, however, this mode of therapy fails to give sufficient relief. Because steroids are not very effective in this form of arthritis, phenylbutazone affords the drug therapy most capable of relieving the more severe cases. For best results, it is recommended that treatment with phenylbutazone be combined with physiotherapy and other appropriate supportive measures.

Dosage

The initial daily dosage in adults is 300-600 mg. in divided daily doses. In most instances, 400 mg. daily is sufficient for maximum therapeutic response. A trial period of one week is adequate to determine the effects of the drug; if there is no improvement, discontinue the drug. When improvement does occur, dosage should be promptly decreased to the minimum effective level: this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

Precautions

Before prescribing, the physician should obtain a detailed history and perform a complete physical and laboratory examination, including a blood count. The patient should be kept under close supervision and

should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Regular blood counts should be made. The drug should be used with greater care in the elderly.

Warning: If coumarin-type anticoagulants are given simultaneously, the physician should watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonyleurea and sulfonamide-type agents and insulin. Patients receiving such concomitant therapy should be carefully observed for this effect.

Side effects

The most common side effects are nausea, edema and drug rash. Infrequently, agranulocytosis, generalized allergic reaction, stomatitis, salivary gland enlargement, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia are also possible side effects. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

Contraindications

These include: edema, hypertension, or danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy;

history of blood dyscrasia. Because of the increased possibility of toxic reactions, the drug should not be given when the patient cannot be seen regularly, when the patient is senile, or when other potent chemotherapeutic agents are given concurrently. Large doses of Butazolidin® alk are contraindicated in patients with glaucoma.

Note: The physician should be fully aware of dosage, precautions, side effects and contraindications as contained in the complete prescribing information.

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BU-3143

MEDICINE HAS always been a dynamic profession, changing with the times, in an effort to provide the best possible care under the circumstances existing at any given time. These medical adaptations form patterns which can be clearly distinguished especially when they are viewed with that infallible 20/20 hindsight.

During the first 150 years of the United States' existence most medical care was administered in people's homes by physicians who travelled by horse or buggy. Sometimes these kindly family doctors dozed while a faithful horse took them about the countryside and occasionally they spent the night at a patient's house. Their hours were long but the pace was leisurely. The work was professionally lonely but it was direct and correspondingly satisfying. The doctor-patient relationship was uncomplicated in an era where the art overshadowed the science of medicine.

In the Twentieth Century progressive mechanization and urbanization began to change the pattern of American medical care. Telephones and x-ray machines, automobiles and the clinical laboratory gradually came into general use and with them the bulk of medical practice came to be centered around the doctor's chosen headquarters rather than in the homes of his patients. The newly developed medical office produced a need for assistants to operate the machines and to help with patients as they were brought in for treatment. It was a drastic change which added a new element to the doctor-patient relationship but a generation of doctors had time enough to make adequate scientific, cultural and economic adjustments. The transformation from a little black bag to an antiseptic office downtown took about 30 years.

The medical sciences have continued to expand faster and faster in a geometric fashion. As this technological revolution gathers speed essential diagnostic equipment is becoming larger and more expensive while many standard forms of treatment are impossible without constant supervision by a group of experts in various fields supported by batteries of intricate machines. Within

the past ten years the resulting requirements of scientific excellence, professional liability, administrative details and economic problems have combined to make the office a small, almost inadequate base for the practice of medicine.

The current trend, for doctors as well as patients, is toward the hospital where the doctor-patient relationship has become exceedingly complex. It seems to be the logical outcome of an evolutionary process that will change the pattern of medical practice again within the next few years. The hospital is developing into a medical team, a kind of super-physician who never sleeps and never tires, who possesses the skills, judgment and resources of hundreds of people regardless of time or the illness. Considered narrowly, it might appear that doctors are losing their traditional independence whereas actually they are gaining new partners, invaluable teammates and their joint efforts are providing better, more comprehensive health services.

For the sake of an easy change-over from office to hospital it is unfortunate that the transition has come so quickly. Existing hospitals do not have enough beds even now to accommodate the patients who need them and the requirements for staff privileges are becoming so restricted that further special training beyond internship is almost mandatory. Many communities cannot afford to build or operate a modern hospital with the result that new doctors choose larger cities for their practice. The cost of medical care is rising steadily in proportion to the increasing number of people who are involved in treating disease and yet eventually the citizens of this country must pay for it.

Young men just out of school have reason for uncertainty when it comes to choosing the best course to follow. Should they begin private practice or will strictly institutional medicine offer greater opportunities in the long run? What is the future of clinical teaching or biostatistics? Will military medicine or the field of public health assume

editorial

larger roles in medical practice before this century ends?

The abrupt shift in medical orientation is producing big problems within the profession and these are compounded by diverse, socio-economic factors especially the distribution, administration and financing of medical care. The national scope of these non-medical influences on medical practice is foreign to so many physicians' concept of the healing arts that it is difficult to examine them without bias and yet objective consideration of every aspect of the future of medicine is essential before deciding on the best means of adaptation. Inevitable developments must be distinguished from those which can be modified and a course laid accordingly. It is a newly tangled web wherein there are no experts, only varying degrees of ignorance.—C. B. Dawson, M.D. ☐

An Invitation To Philadelphia

THE AMERICAN PHYSICIAN is well aware that he must keep abreast of new findings in therapy and research to be able to provide the best possible care for his patients.

He must know about new drugs and their uses and possible side effects. He must know about new techniques of surgery. He must know of the promising leads toward solution of now baffling physical ills. And he must know of the sometimes small but often important new successes in finding better ways to treat the already treatable diseases.

There's no argument about the premise that the physician must keep learning. The problem is how. With the average American physician now working a 58-hour week, and many putting in hours far above the average, how can the physician find the time to study and keep abreast?

One of the most compact methods of checking up on new developments is to attend the annual clinical convention of the American Medical Association. The program of this convention is designed primarily for the man in practice. The speakers will read papers that bring to the man in practice the latest findings of others in his area.

This year the clinical convention will be held in Philadelphia, Pennsylvania, November 28-December 1.

The Philadelphia meeting offers an excellent scientific program. Topics of wide interest will be discussed by outstanding teachers. All of the various sessions and workshops will contribute to the continuing education of the practicing physician.

Particularly noteworthy are the postgraduate courses in gynecology and obstetrics and in cardiovascular therapeutics, consisting of two series of comprehensive lectures.

Other sessions will be devoted to timely subjects, followed by question-and-answer or discussion periods. Fireside conferences and breakfast roundtables will provide further time for informal discussion.

It promises to be a stimulating four days, worthy of the busy physician's time. Take advantage of this fine educational opportunity. ☐

The Fee Study

OKLAHOMA PHYSICIANS have received a survey form regarding the sensitive area of their "usual and customary" charges.

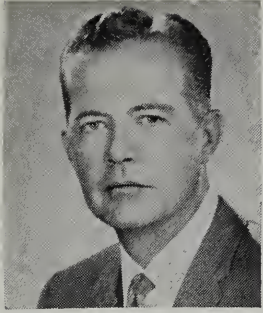
Although the survey is being conducted by the association's own Prepaid Medical Care Committee, it is only natural that some physicians may have misgivings concerning the revelation of such information.

No doctor has to be told that these are turbulent times. The foundation of our beloved voluntary prepayment mechanism is being shattered by massive Federal intervention. Laws of great consequence have already been passed by Congress, and more of such efforts are in prospect.

The committee is endeavoring to study the cost of professional services for the simple purpose of seeing what can be done — if anything — to develop imaginative programs to better satisfy public demand and to preserve what is left of voluntarism.

No "solutions" have been preconceived, and no action is contemplated beyond the possibility of submitting well-considered recommendations to the association's House of Delegates.

The value of the study depends upon the response to the questionnaire. ☐



Considerable apprehension was occasioned a few weeks back by the survey of physicians' fees requested by the Oklahoma State Medical Association. A response, bordering closely on suspicion, was undoubtedly generated in part by uncertainties growing out of the Medicare Bill and its future implementation. I have received a number of telephone calls both from individual physicians and from leaders of several specialty societies who were speaking in the names of their organization. They were courteous and honest . . . but they were frankly worried!

I, think, therefore, it is time to set the record straight.

In the first place, no officer or committee of this association has the authority to commit any member of this organization to a fixed fee schedule without prior authorization of the House of Delegates. Secondly, no officer or committee in this association is presently empowered to negotiate with any agent of government or insurance carrier in the name of this association, since the matter of participation in the Medicare program will not be officially decided by the House of Delegates until its special meeting on October 24th. You should know that I have, on several occasions, talked informally with representatives of the Blue Plans, the State Health Department, the Welfare Department, and the Department of Health, Education and Welfare in Washington . . . not with the purpose of formulating any definite program, but simply to get any additional information on the entire scope of the problem which might serve in developing our own guidelines.

I will state, without hesitation, that it is my hope that the House of Delegates will leave the decision on the matter of participation to each individual physician, and that it will direct the Oklahoma State Medical Association to make available to each physician a complete analysis of his rights, obligations, or potential penalties under the Medicare program, in order to assist him in making this decision. I personally do not feel that the association should urge, coerce, or otherwise influence the decision of the individual. I will further state that it is my hope that our House of Delegates will empower me to appoint a special committee to work out the proper details of a program for our state which subsequently will be submitted to the House for its approval.

To those physicians who may wish to participate in the program, this association has a clear-cut obligation to represent them toward the goal of designing a program under which they will be properly reimbursed, will continue to enjoy freedom of professional practice, and will be relieved of unnecessary "red tape." P.L. 89-97, which embraces the Medicare provisions, is LAW. Someone is going to design a program for the State of Oklahoma; and it will be done with or without professional representation, as we elect. I cannot believe that *negotiation* is synonymous with *surrender* or *acquiescence* when such negotiation is directed toward the goal of formulating a program we can live with! On the contrary, should we fail to make our wishes known and fail to lend direction to the plan under which we will subsequently live, then I feel we will have acqui-

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esced by default!

The physician's fee survey was initially designed to form a significant part of the economic health survey authorized by the House of Delegates at the annual meeting in May. I had felt, originally, that such information might be of additional value when and if we are called upon to discuss the matter of professional fees with the appointed fiscal agent under the Medicare program. The several physicians who have talked with me on this subject, however, have convinced me that this approach might well be unrealistic, and that the survey might not reflect an accurate analysis of professional fees in the various regions of our state. They have suggested that a special committee be formed by representatives of the Specialty Groups and the Academy of General Practice, who might bring data from their group membership in order to establish a more equitable and accurate pattern of what constitutes "reasonable and customary fees." Directing attention to the fact that I am not as inflexible as some claim, I would admit that their plan has more merit than my own. And, if I am so authorized by the House of Delegates, I will appoint such a committee from nominations made by the various specialty and general practice groups.

This could well be the most important activity in which OSMA will be engaged this year. It is imperative that any fee schedule developed by the fiscal agent be realistic and truly representative of "reasonable and customary" charges in the various areas of the state. For, should a physician elect to take an assignment under the Medicare program, he should be properly reimbursed. I do not feel that the government should pay less for a professional service that we charge our private patients; and I am unswerving in my belief that *only physicians* have the right to place a value on the services they render. By like token, should the individual doctor elect to bill his patient directly, then the patient should be able to receive a significant reimbursement from the fiscal agent. For, should there be a material difference between the fee charged and the portion indemnified, there will undoubtedly be demands to broaden the program and/or force us all under the assignment method.

Be assured that the officers of this association are watching developments very closely. We have already spent many hours in "getting educated"; and we will expend our best effort, as regulations are released, toward designing a program which will protect your rights as physicians and bring high quality medical care to your patients.

We need your support and confidence. Fear can negate effective action, and suspicion can destroy the professional unity which is infinitely essential to survival.

Rex Kenyon

Do Viruses Cause Cancer?

PAUL H. BLACK, M.D.

The large number of viruses, some of which are human viruses, which have been found to cause cancer in animals and the many new techniques now available for investigation of this phenomenon have increased the interest in the field of oncogenic virology.

THE SUBJECT which has been assigned to me asks the question: Do viruses cause cancer? The answer to this is yes; viruses do cause cancer. There is no question that certain viruses cause cancer in animals. Furthermore some of the human adenoviruses induce malignant disease in hamsters and mice. Whether human cancer is caused by a virus is, of course, not known at present. Many workers in the field of oncogenic virology are convinced that at least some human malignancies may be caused by viruses. Let me say, at the outset, that viruses may not be the only cause of cancer. In animals, hereditary or genetic factors, hormonal and metabolic factors, radiation energy in its various forms, chemical carcinogens, as well as viruses may be involved in the development of cancer. As has been pointed out repeatedly, viruses may be one but not the only cause of cancer¹.

In this address I propose to briefly trace the history of over 60 years of virus cancer research. This will be done for two reasons. First, we shall become acquainted with the various oncogenic viruses and a few characteristics of the tumors they induce. Secondly, we can utilize this background to evaluate past failures in attempts to isolate viruses from human neoplasms. We can further use this information to discuss some new, exciting areas of research which have been developed in the past five years as well as the prospects for future avenues of investigation.

The first suggestion that viruses may be the cause of cancer was made by Borrel in 1903 shortly after the discovery of viruses and after several unsuccessful attempts to discover a bacterial etiology of cancer².

Sanarelli, five years earlier, had discovered myxomatosis in rabbits³. Indeed, he could pass this disease among rabbits but he did not use cell free filtrates. At the time, the prevalent medical opinion was that this was an infectious disease so therefore, it could not be regarded as a malignant disease.

In 1908, Ellermann and Bang demonstrated that a virus caused leukemia in the fowl⁴. Again, it was regarded more as an infectious disease than malignant disease. Despite this discovery, the thinking of mankind was such that it had no impact on the scientific endeavor of the time. Three years later, Rous was able to transmit the first solid tumor—a breast sarcoma in Plymouth Rock hens—with cell-free filtrates⁵. Because of the lat-

Address given before the Oklahoma State Medical Association Annual Meeting, Tulsa, Oklahoma, May 14th, 1965.

ter fact, he regarded it as a true viral disease. We shall begin our consideration of tumor viruses with the Rous sarcoma virus. The survey will be divided into two parts, one dealing with the RNA (ribonucleic acid) viruses and one with the DNA (deoxyribonucleic acid) viruses. RNA and DNA are the hereditary or genetic materials of a virus; a virus is composed of either RNA or DNA and a protein overcoat.

RNA TUMOR VIRUSES

Rous Sarcoma Virus (RSV) and Avian Leucosis complex. As stated, the RSV causes solid tumors in fowl. It is of interest that inoculation of RSV into young chicks produced, not sarcomas, but a curious hemorrhagic disease⁶. Thus, the influence of age on the type of response to oncogenic viruses was demonstrated early. We shall see later a different effect—that some tumor viruses can take hold only in suckling animals, at a time when the animals are immunologically immature and can accept a “foreign” substance.

The RSV can alter or transform normal chicken fibroblastic cells grown in tissue culture, to malignant cells⁷. This phenomenon is called viral transformation, and is one of the most important tools in virus cancer research. The malignant cells are altered in morphology and resemble the sarcoma cells induced by the virus in vivo. They also grow on top of each other and form small tumors on the glass surface, differing from normal cells which stop growing when they touch one another; this latter phenomenon has been called contact inhibition. When transplanted to chickens, the transformed cells grow into solid sarcomas.

Some tumors and transformed cells do not produce infectious RSV. Recent work has disclosed that the RSV is defective and is not able to produce its protein overcoat unless another virus is present⁸. When this helper virus is added, mature and infectious RSV is produced.

The RSV is antigenically related to three other tumor viruses of chickens; this latter group is known as the fowl leukosis complex, and is composed of the viruses which cause visceral lymphomatosis, myeloblastosis and erythroblastosis. In visceral lymphomatosis, well differentiated lymphatic cells

infiltrate various internal organs such as the liver or spleen⁹ but sometimes the bones, eyes or nerve trunks are also involved. Myeloblastosis and erythroblastosis^{4, 10} are types of fowl leukemia in which immature myeloblasts and erythroblasts respectively are produced in abundance. These viruses spread rapidly either horizontally, from chicken to chicken, or vertically, through the egg, and entire flocks of fowl are frequently infected. This is of much importance since the chicken egg is used in the production of several vaccines, including the measles, yellow fever and influenza vaccines.

MAMMARY TUMOR AGENT

In 1936 Bittner discovered a virus in milk which caused mammary carcinoma in parous female mice¹¹. Further investigation revealed the importance of the genetic background of the host and proper hormonal conditioning of the target organ in the induction of cancer by the virus.¹² Males also harbor the virus, and carcinomas may be induced in them by treatment with estrogenic hormones. This system illustrates the importance and interplay of several factors, genetic, hormonal and viral, in the complex etiology of mouse mammary adenocarcinoma.

MOUSE LEUKEMIA VIRUSES

There are approximately ten different viral isolates which cause various leukemias in the mouse. The leukemias are of four general types: lymphatic, myelogenous, monocytic and reticulum or stem cell leukemia. The viruses have been isolated either from spontaneous¹³ or irradiation-induced leukemias¹⁴ or from transplanted mouse neoplasms¹⁵ and bear the names of the original investigators. Gross, Kaplan, Schwartz, Moloney, Friend, Graffi, Rauscher, Stansly, and Bather have all isolated mouse leukemia

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Viruses / BLACK

viruses. Many of these murine leukemias are similar morphologically¹⁵ and are related serologically¹⁶; indeed, the murine leukemia viruses are morphologically similar to the viruses which cause chicken leukemia. The presence of the thymus and spleen are necessary for the development of the lymphoid and myeloid leukemias respectively; removal of these organs prior to inoculation with the virus prevents the leukemia from developing. This is probably due to the fact that the target cells for these viruses reside in these organs. Some of the viruses pass to the offspring in utero or through the milk of infected mothers.¹⁷ Recently, tissue culture growth of some of these viruses has been accomplished¹⁶ with the production of a complement fixation antigen common to most members of the group. We shall mention this later in connection with diagnostic tests for both murine and possibly human leukemia.

DNA TUMOR VIRUSES

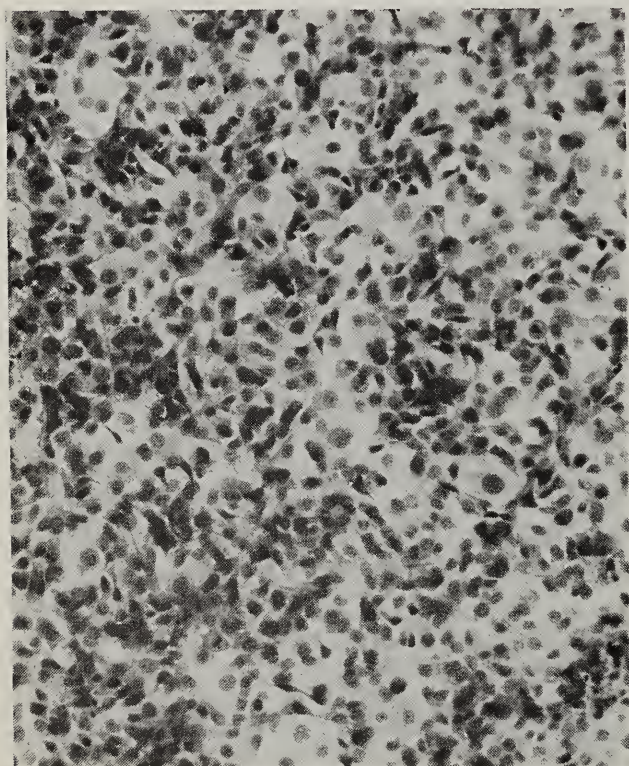
Lucké Frog Carcinoma Virus. This virus causes renal adenocarcinoma in the leopard

frog.¹⁸ The carcinomas develop naturally; 2.7 per cent of 10,000 leopard frogs in the New England area were found to have renal carcinomas.¹⁹ Not all breeds of frogs are susceptible to this virus, again indicating a genetic factor in the oncogenic action of a virus.

PAPILLOMA VIRUSES

This group of viruses cause warty growths on the skin. Papilloma viruses of the rabbit, dog, cow, horse, and man have been identified and are similar morphologically; whether there is any serological crossing is not known. The human wart is the only known tumor of man caused by a virus. Recent reports indicate that both the bovine and human papilloma virus are capable of transformation of tissue culture cells.^{20, 21} Figure 1 shows normal and transformed bovine conjunctiva tissue culture cells.

The rabbit papilloma virus has been studied most extensively.²² Virus is present in abundance in the benign papillomata of the wild cottontail rabbit. However, these may undergo malignant change with the development of squamous cell carcinomas. After this occurs, virus is no longer present in



Left—normal diploid bovine conjunctiva tissue culture cells. Note epithelial morphology and ordered growth pattern. H & E 155 X.



Right—diploid bovine conjunctiva tissue culture cells transformed by the bovine papilloma virus. Note disordered growth with piling up of cells. H & E 155 X.

the neoplasm.²³ Thus, one would not suspect a viral etiology if the only efforts to isolate a viral agent were made solely on the malignant lesion.

POLYOMA VIRUS

One of the great spurts in virus tumor research came with the discovery of the polyoma virus of mice in 1953.^{24, 25} It was so named because many different types of neoplasms are produced, including mixed tumors of the salivary glands, carcinomas of the breast, and tumors of kidney, thymus, mesothelium, subcutaneous connective tissues, thyroid, adrenal, buccal mucosa, sweat glands, stomach and various epidemoid carcinomas. In all, over 20 histologically different tumors in the mouse have been induced with polyoma virus and one mouse has been known to have as many as eight histologically different tumors. The agent is quite remarkable in its relative lack of species and strain specificity requirements among rodents in that tumors can be induced in the hamster, rat, guinea pig and rabbit by this virus. The virus is found quite commonly amongst mice in nature and antibody to it is also frequently present; however, no natural polyoma tumor has ever been shown to occur spontaneously in nature. Whether this means that large amounts of virus are needed locally to induce a tumor, as is obtained by laboratory inoculation, or simply that mice do not have doctors,²⁶ is unknown.

Polyoma virus causes transformation of mouse, hamster and rat tissue culture cells. These transformed cells do not contain any polyoma virus. Since these cells are malignant and cause tumors when inoculated back into the animal, one must conclude that the presence of infectious virus is not essential for continuation of the malignant state.²⁷ Indeed, there is indirect evidence that some viral genetic material may be present albeit insufficient to produce whole virus; this evidence stems from the chromosomal aberrations in transformed cells and the presence of "transplantation" resistance which is induced in an animal by virus inoculation and is manifest by the rejection of tumor cells several weeks later.^{28, 29} This phenomenon has been explained by postulating the appearance of a new antigen, coded for by the

virus, in the cells which become transformed after virus inoculation. Antibody, evoked by the new, "foreign" antigen then causes the rejection of tumor cells transplanted three weeks later.²⁹

SIMIAN VIRUS 40

This virus produces sarcomas in the hamster and ependymomas in the rat. It is a monkey virus, the 40th one isolated, which is found as an inhabitant of monkey kidney tissue cultures.³⁰ As such, it contaminated the poliovirus vaccines, both formalinized and live, when these vaccines were prepared in monkey kidney cells. Since it is resistant to 1:4,000 formalin, over 50 million people received this virus in the early days of polio vaccination. Studies have demonstrated growth in humans with the development of an immune response.³¹ Furthermore, the virus transforms human cells grown in tissue culture.³² Although these findings seem ominous at first, the implications are not so dire. First, humans do not receive a million or so infectious virus particles in one locus as does the newborn hamster. Secondly, a virus may transform tissue culture cells yet not be oncogenic for the animal from whence the tissue culture cells were derived. Thus, SV40 transforms rabbit and mouse cells yet it does not cause tumors in rabbits and mice.³³ Thirdly, recent studies have not shown any increased incidence of cancer in children who received the contaminated vaccine.³⁴ The experience does point out the existence of many latent, potentially harmful animal viruses in tissue culture cells and the extreme caution that must be exercised in the preparation of vaccines.

Unlike the carcinomas that develop from rabbit papillomas and the polyoma transformed cells, SV40 tumors do contain infectious virus. As the tumors enlarge, antibody to the virus is produced. In large tumors, high antibody levels are present which "mask" the virus and make detection difficult.³⁵ Thus negative results may be obtained when one seeks the presence of a tumor virus in a large tumor even when virus is present.

In SV40 tumors and transformed cells, a new antigenic reactivity develops.^{36, 37} This new antigen develops from genetic informa-

tion of the virus but is not the same as the viral antigen. Polyoma and adenovirus (see below) tumors also have these new antigens;³⁶ each one is different and specific for the virus which caused the tumor. The importance of these antigens as related to future investigations of the etiology of human neoplasmas will be discussed later.

ADENOVIRUSES

In 1962 Trentin astounded the medical world by reporting the oncogenicity of adenovirus type 12 in hamsters.³⁸ Since then adenoviruses type 18 and some strains of types 3, 7, and 31 have been found to induce malignant disease in hamsters. The adenoviruses are the first human viruses that have been found to be oncogenic. The tumors have been classified as undifferentiated sarcomas. No infectious virus has ever been isolated from these tumors but viral antigens are present in all of them indicating that a part of the viral nucleic acid is directing the synthesis of at least a part of the virus.³⁶ In addition, adenovirus specific tumor antigens, which are different from the viral antigens, are present.³⁶

TUMOR VIROLOGY—PAST AND PRESENT REEVALUATION OF PAST EXPERIENCE

Having completed a brief survey of the tumor viruses we may now consider the lessons we have learned from the accumulated

data. In Table I, a summary of some aspects of our past experience and some of the present lines of investigation is given. Naturally one wonders whether all these oncogenic viruses have anything in common and whether any such properties could explain their cancer-producing potential. It is true that the oncogenic viruses are alike in that all are capable of remaining in their hosts for long periods of time during which no symptoms of infection are evident. In addition, many of the RNA tumor viruses within a species are related, such as the viruses which cause the avian leukemias and the mouse leukemia viruses. There is also some interspecies relatedness among the DNA tumor viruses in that the papilloma, polyoma and SV40 viruses share many physical and chemical properties; these latter viruses have been designated Papova viruses. However, in other respects the tumor viruses differ from one another tremendously; this variability includes morphology, mode of replication, host range, epidemiology, etc. Indeed, they differ as much from each other as they do from the ordinary disease-causing viruses such as polio, measles, and herpes. Therefore, we cannot find any striking, constant property in the tumor virus group except the cancer-producing potential.

The next important question considers the possibility of isolating a virus from human malignancy. Although several claims of having accomplished this feat have been made, none has stood the tests of time, confirmation and the possibility of contamination with other organisms or harmless "passen-

Table I
Tumor virology—past and present.

Past Experience	Present Approaches
Similarities of tumor viruses	Electron microscopy
Long residence in host	Leukemia; lymphoma
Papova viruses	Tumor-virus antigens
Chicken leukosis; mouse leukemia	Avian leukosis complex
Differences between tumor viruses	Complement fixation
Morphology, physical characteristics, etc.	Mouse leukemia
Difficulties in isolating viruses from tumors	Complement fixation
1) May not be there	Fluorescent antibody
Polyoma transformed cells and hamster tumors; adenovirus hamster tumors; rabbit papilloma—carcinoma progression	New tumor antigens
2) Defective virus	Transformation <i>in vitro</i>
RSV	Homology of viral DNA; host DNA
3) Latency	Adenoviruses 12, 18; SV40
Murine radiation-induced leukemias	Epidemiology
4) Masked by antibody	Burkitt tumor (African lymphoma)
SV40	

ger viruses." What might be the difficulty since we have available such sensitive assays including animals, eggs, and tissue cultures? First, the whole, infectious virus may not be present. We have seen this with polyoma transformed cells and in some tumors such as the rabbit carcinoma developing from a papilloma, polyoma or adenovirus-induced hamster tumors. Or the virus may be present in a defective or incomplete form as in the Rous Sarcoma; in this case another virus must be added to "rescue" the original one. The virus might also be present in a latent or "masked" condition, needing some external stimulus such as X-irradiation to produce infectious viruses; this situation might exist in some of the mouse leukemias. Lastly, the virus might be there but masked by the presence of viral antibody, as has been described with the SV40 tumors. Thus the task of viral isolation in human cancer is not an easy one and all these considerations must be taken into account before pronouncing the result negative.

PRESENT APPROACHES

What are some of the present avenues of research which are exciting so many in the field today? First, the electron microscope with which one can see viruses has become an invaluable tool in virus research. Certain particles which resemble viruses have been seen in lymph nodes of patients with lymphoma¹ and in concentrated plasma samples of leukemic patients.³⁹ Some of these resemble the chicken and mouse leukemia viruses. Recently, virus-like particles have been seen in cow's milk from a herd with a high incidence of lymphosarcoma⁴⁰ and even in normal bovine and human milks.⁴¹ Remembering that the mouse mammary adenocarcinoma and some of the mouse leukemias are transmitted from mother to offspring via the milk, these are provocative findings. For the present, though, we must still call these particles virus-like and continue to look further.

Since viruses within the fowl leukosis group are interrelated as are the mouse leukemia viruses, immunological tests have been devised using antigens prepared from the viruses of these two groups; tests with the

sera from patients with various human malignancies for any cross reactivity with these groups can now be performed. Although there is no evidence of the transmission of fowl leukemia to man, it has been found recently that the Rous Sarcoma virus is capable of inducing neoplasia not only in mammals⁴² but in primates (monkeys).⁴³ In our laboratory, using an antigen prepared from Rous virus, 137 sera from patients with leukemias and lymphomas were found to be negative in complement fixation tests. More tests, of course, are needed. Moreover, very strict precautions, as already mentioned, are also mandatory to eliminate eggs infected with these viruses from vaccine production pools.

Antigens prepared from tissue culture grown mouse leukemia viruses also have been tested against 99 sera from humans with acute and chronic leukemia, lymphosarcoma, Hodgkins disease and African lymphoma (*vide infra*); no neutralizing antibody was found in any of these sera.¹⁶ However, one recent report, although not yet confirmed, indicates that some relation may exist between human and murine leukemias. Human leukemia sera was concentrated and an animal immune serum, prepared against the pellet, was then found to react with mouse leukemia cells in immunofluorescence studies.⁴⁴ Thus, many different approaches may be needed to establish a relationship between animal cancer of viral origin and human malignancy.

The antigens mentioned above are viral antigens. As previously discussed, the DNA viral tumors have new CF antigens present which are different from the viral antigens, yet are produced from viral genetic information. Present in tumors where no virus can be demonstrated, the presence of these antigens or antibodies formed from them should be sought in various malignancies. Thus human sera from cancer patients could be reacted against polyoma, SV40 or adenovirus tumor antigens; conversely, preparations of human tumors could be tested against hamster tumor sera containing antibodies to the above antigens. One such study carried out with the SV40 tumor antigen reported negative results.⁵³ Thus the difficulty in recovering infectious virus would be bypassed. The relationship of this new antigen to the perpetuation of the malignant state is

unknown at present but it is felt that some viral genetic information is integrated into the genetic apparatus of the cell and is responsible for the production of the new antigen.

Another area of intensive research is concerned with *in vitro* transformation, or the rendering of normal cells malignant by the action of viruses.⁴⁵ More oncogenic viruses can be found by this technique; indeed malignant tissue from human cancer could be screened for possible transforming ability. Experimentation with this new "test-tube" cancer has many advantages over those carried out with animal viral cancers: it pinpoints the event; fewer variables are present; the malignant process can be studied quantitatively; less time is needed for the oncogenic process to occur, and the oncogenic potential of a virus can be tested in human cells grown *in vitro*.

Recent advances in the fields of biochemistry and molecular biology on the structure and composition of DNA have revealed much of importance to virus-cancer research. It has been found that the Guanine-Cytosine (G-C) content of the DNA of some of the oncogenic viruses such as adenovirus types 12 and 18⁴⁶ and SV40 virus⁴⁷ is similar to the G-C content of their mammalian hosts. This "homology" could explain why some viruses are oncogenic and others are not, in that a viral DNA of like constitution could better be integrated into the host cell genes and cause a disturbance in growth regulation. More extensive studies have revealed that this homology does not hold true for other oncogenic viruses. However, the phenomenon, whether universal or not, is of vital importance and is being studied intensively.

The last approach we shall discuss concerns the epidemiology of cancer. Scattered papers for a number of years have reported disproportionately large numbers of cancer cases in certain localities. Whenever such "epidemiological clusters" appear one immediately questions an infectious etiology. Perhaps the most intensively studied and the most convincing thus far is the "Burkitt tumor."⁴⁸ This tumor is a lymphoma which

appears mostly in the mandible and maxilla of children in Africa; in certain areas of Africa this lymphoma accounts for nearly half of all neoplasms in children and half of these present multifocal tumors in the jaw bones.⁴⁹ Burkitt showed that the tumor appears in a belt coinciding with the humid areas of relatively low altitude, which thus suggests a transmissible insect vector-borne agent in the etiology of this neoplasm.⁵⁰ Electron microscopic examination of the lymphoma cells from all cases studied thus far has revealed the presence of virus or virus-like particles. These lymphoma cells are now being studied in many laboratories and attempts are being made to isolate a viral agent.

SIGNIFICANCE FOR HUMAN CANCER

We have seen that newborn or immunologically immature animals are more susceptible to the oncogenic effects of these viruses. Moreover, we know that a baby animal can be infected only to develop the tumor much later in life. We should question any possible relevance of these findings for human cancer. Might children be more susceptible to an oncogenic virus? Children love pets, many of which develop malignancies. Moreover, we know that oncogenic viruses do cross species barriers. However, at present there is no evidence that any such epidemiology exists. Also, humans are well developed immunologically at birth so a comparable state of immunological tolerance does not exist in the human situation. Also the doses of virus transmitted in nature are relatively small, as compared with the tumorigenic doses given in the laboratory. Therefore, it does not seem likely that a counterpart of the polyoma virus, for example, in humans will be found to be effective, alone, in the induction of cancer. However, it is not inconceivable that some viruses, including adenovirus 3, 7, 12, 18 or 31, might play a role in the initiation of some cancers following irradiation or some other procedure or disease process which compromises the immunological integrity of the patient.⁵⁷

Regarding public health measures, we should be aware that sanitary measures for disinfection of equipment in public eating

establishments were largely worked out on the basis of tests with bacteria. At least one oncogenic animal virus, SV40, is not completely inactivated by boiling for 15 minutes.⁵² We know that certain human viruses such as the hepatitis virus may be just as stable.

Any thoughts of vaccination are premature at the present time. One would first have to identify the etiological agent(s) and determine whether only a few or many were responsible. Success would also depend on whether the oncogenic part of the virus, the nucleic acid, could be rendered harmless.

SUMMARY

A brief review of the oncogenic animal viruses has been presented. Using data from this history, aspects of our past thinking about tumor viruses and attempts to isolate viruses from human cancers were discussed. The present experimental approaches in tumor virus research were reviewed. □

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Recent Advances and Problems in Radiology

LAURENCE L. ROBBINS, M.D.

Presenting a brief discussion of a few of the explosive problems confronting radiology in relation to the practice of medicine in this acute period.

IT IS A distinct honor and pleasure to come before The Oklahoma State Medical Association today to discuss some of the recent advances and the problems of radiology as they may affect the future. It may be unique for a radiologist to present a paper with few if any slides, but what I have to say does not lend itself to illustration. I wish to talk with you concerning some of the major problems that face our profession today, and let you decide what their effect may be upon you.

Since 1945, radiology has been in a period of explosive development. Much of this has been technical, and yet there are other forces which may have a serious impact on your practice of medicine.

Beginning in 1941, Doctor W. Edward Chamberlain made certain proposals to meet the inadequacy and lack of information available through conventional fluoroscopy. The Westinghouse X-ray Company accomplished

a major research and development program in producing the first adequate image intensifier in the United States. Today the image intensifier is relatively commonplace. In Rochester, New York, a group under the direction of George Ramsay became interested in the application of cineradiography, which had become practical because of reduced radiation dosage due to the intensifier. As would be anticipated from the development of home and commercial television, it did not take long for this to be applied to radiology. Morgan, Stauffer, and Webster contributed many ideas in this field. Girdany in Pittsburgh soon applied the utilization of commercial video tape to the recording of fluoroscopic studies. Today, small videotape recorders are available within a reasonable price range. All of these developments lead to a multitude of complexities in cost, information available, maintenance, and obsolescence.

You as physicians often seem to feel that the radiologists are developing their own empires and that they have a monopolistic type of practice. I point out to you that the radiologist has relatively little or no control over this development. You are the ones who create his increased activities and develop any possible empire for him. Nor is there any monopolistic situation, since most radiology departments, in larger institutions at least, have staffs of radiologists available for consultation which are far greater than those in the department of neurology, neurosurgery, endoscopy, etc.

Presented at the Annual Meeting of the Oklahoma State Medical Association, May 14th, 1965, in Tulsa, Oklahoma.

There is an average increased utilization of radiology in the number of radiologic examinations of approximately ten per cent per year, nationwide. If one breaks this down on the basis of complexity and time-consumption, then he finds that the increased utilization of radiology goes up at about the rate of 40 per cent per year. The effects of this explosive expansion in the diagnostic field result in markedly increased costs and a relative decrease in the number of physicians available to meet the demands and needs of your consultations requested today.

In 1935 it was possible to equip a combination fluoroscopic-radiographic room for approximately \$5,000. In 1950, it cost \$25,000 for a comparable unit. Today the minimum cost ranges from \$60,000 to \$75,000 per room when current electronic fluoroscopic devices are included.

Tristan and Epperson note that the ideal system, not yet built, will cost approximately \$800,000 for a thousand-bed hospital, plus an additional 1.5 million to supply necessary adjuncts such as communication of the electronic explosion taking place.

The radiologic professional problems are of no less magnitude. It has been pointed out that the increase in the number of procedures has been at the rate of approximately ten per cent per year, but when these are weighted correctly, it is more probable that this is in the range of 40 per cent per year. As of about two years ago, there came an abrupt change in my correspondence. Up to that time I received about one letter per month seeing a resident who was finishing his training to go into a group, private practice or an academic position. Often it was possible to suggest a man. For the last two years there has been an unusual demand which now has increased to the point where I receive at least one letter or one telephone call per *day* requesting not only a graduating resident, but often someone along the line up to a full professorship. This represents an increase from one every month to one every day, 365 days a year.

What are the demands for radiologists today and in the future? At the moment in this country and Canada there are somewhat less than 7,500 radiologists certified by the American Board of Radiology. In 1963, there were said to be 86 million radio-

logical examinations, excluding chest surveys: one x-ray examination for approximately every two people in the United States. Approximately 50 per cent of these were done in hospitals, 25 per cent by private physicians, and the remainder were carried out through industrial or other programs. If the average radiologist can do 7,500 examinations per year, it would mean that as of 1965, we need 11,466 radiologists; we have $\pm 7,500$. By 1970 we shall need at least 20,000, and the figures will continue to increase at a proportional rate.

Another matter for serious concern is the fact that the number of radiologic residencies being filled is decreasing each year and has now fallen to a level of 76 per cent. Furthermore, 17 per cent are filled by foreign residents (who are presumably on exchange visitor visas). At the moment we are training approximately 500 new residents per year. Let us assume that there is a 25 per cent to 30 per cent failure rate in the American Board of Radiology examination. We can expect approximately 350 new certified radiologists added to the pool each year. If, however, we are to reach the 20,000 needed by 1970, we have to plan on training at least 2,100 men each year who will pass the board examinations with no failures and no deaths. This seems unlikely!

Up to this time I have dealt primarily with the technical explosion and the supply of physicians. Now I would like to present some of the refinements which are foreseen.

To coin a term, I should like to say that "isoscopes" are going to be readily available.

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Doctor Robbins is a member of the Radiological Society of North America, the American Roentgen Ray Society, the American College of Radiology and the New England Roentgen Ray Society. In addition, he is a Trustee of the American Board of Radiology and President of the Board of Directors of the James Picker Foundation.

These are image intensifiers with superior optical systems that can provide slow scans to allow visual isotopic examination of an organ.

Another new development will be storage tubes which can be utilized during fluoroscopic examinations and suddenly turned to storage of the image. These will be readily applicable in modern fluoroscopy as well as in the operating room for hip nailings or other similar procedures.

Filing, which has been a great problem in most departments of radiology, may suddenly be possible on tape or discs—a boon to most hospitals and offices. If this can be accomplished, there will not only be considerable saving in construction costs for what is now essentially waste space, but prompt availability of information will be provided, which is not now possible.

The computer, one of the present monsters of the day, will continue to intercede in the field of diagnostic as well as therapeutic radiology. In the diagnostic area, it may take a prominent place in scheduling patients, filing information, and reporting to the physician. It is not at all impossible that the computer may take the place of the radiologist in the diagnostic area. (I really don't believe this!)

Beyond this I look with some trepidation on the problems of obtaining adequate support of educational programs for radiologists from the National Institutes of Health. To date there has been little or no help for diagnostic radiology in any research program unless it has involved mice. Anybody who wished to propound a program which might improve diagnostic radiology has usually been turned down (Dowdy). These are factors which are of great importance to you as well as to the radiologist.

Up to this point I have avoided the problems of socialization of radiology which are likely to occur under Medicare. My greatest concern as a teacher of radiology is that, if this becomes a fact, there will be fewer young men interested in entering a field which will then be recognized as socialized.

If 40 per cent of the patients in our hospital are now over 65, it is contemplated that this number will be doubled by 1970, under

the Medicare program. Yet little is being done to prepare for this onslaught. We can look for increasing problems in this area. The first is that the radiologist is one of the original professional specialists to be included under socialization, which will undoubtedly result in a decreasing number of interested candidates for the specialty. Second, you can expect only increasing problems in the availability of radiologists for your patients. Scheduling will become not only occasional but universal, and we will be rapidly approaching the present disastrous condition of Great Britain. From what congressmen tell us today, we can only guess that the American citizen thinks he desires "free" medicine, but I doubt whether he really wants what this may entail.

The huge strides in professional accomplishments, in selective angiography, lymphangiography, mammography, isotope scans in pulmonary embolism, ultrasonic studies, and radiation therapy have been essentially unmentioned. They represent great advances for your patients, yet they add to problems of the future.

SUMMARY

In summarizing the advances in radiology, we can say that there has been a tremendous explosion in technical matters. Professionally, there has been a demand for an increase in the amount of knowledge by the radiologist, and for many more radiologists; yet fewer are being trained and fewer are available for the ever-increasing number of positions available. The future prophesies an increasing dearth of radiologists (since there may well be fewer men going into training). Technical radiological costs can go only higher because of the increased cost of equipment. Mechanization and electronification may help to "speed up production," but it cannot aid in the basic cost problem, as obsolescence becomes more important than depreciation. Socialization of radiology can result only in increased complexities of practice, with final government intercession and fewer trainees and fewer radiologists in the future.

In conclusion, the technical advances will continue. Costs are bound to be higher and the number of radiologists will decrease with

socialization. Finally, we must be prepared to cooperate and together look for ways to progress with continued better medical care for our patients. □

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The Diagnosis of Chest Pain

THOMAS N. LYNN, M.D.

There are many causes of chest pain, some of which are significant in terms of the patient's health and some of which are not. By means of careful history and physical examination and the judicious use of the laboratory the cause of most chest pain can be determined with reasonable certainty.

WHEN A PHYSICIAN receives a telephone call from one of his patients reporting that he is having chest pain, the possibility that this pain is due to coronary artery disease usually crosses his mind. More often than not, the pain is not cardiac in origin, but much time is often lost in the hospital while it is determined that the discomfort is not heart pain, or worse, chronic invalids may be made by an incorrect diagnosis of coronary artery disease. An attempt at differentiation of the origin of some types of chest pain will follow in the ensuing paragraphs.

I. PAIN ARISING FROM THE HEART, GREAT VESSELS AND PERICARDIUM

The classical pain of anginal pectoris is well known. When in its typical form of squeezing, substernal discomfort with an associated ache in the left shoulder and down into the arm, there is little confusion about the source. Angina pectoris, however, may pre-

sent in different ways. It may be in the right side of the chest and extending down the right arm. It sometimes extends into the neck and jaw and rarely through to the back. Often the sensation is not described as pain at all, but as a feeling of fullness which may be localized substernally, in the neck or in the left axilla. There are some patients who experience angina recognizable only to them as an ache in a localized area of the arm or shoulder without chest discomfort at all. More reliable in the diagnosis than the location of the pain are the circumstances which cause and relieve the discomfort. The classic triad of exercise, emotion and eating has been joined by a fourth precipitating factor unique to our age and culture, the watching of exciting television shows. The circumstances of relief of

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the pain are rest and the discontinuance of the activity which caused the pain in the first place. The relief of chest pain by sublingual nitroglycerin is often regarded as positive proof of angina. However, it must be remembered that pain of smooth muscle origin also may be helped by nitroglycerin, though not often completely relieved, and chest pain of psychologic origin may be relieved by any placebo. When the response to nitroglycerin is used as a diagnostic test, relief is usually within five minutes and always by ten minutes. The pain should be completely relieved and not merely improved. The duration of pain in angina pectoris is

longer than 30 seconds, but rarely as long as ten minutes, if with the start of pain, the provoking activity is discontinued. If the pain lasts as long as 30 minutes, myocardial infarction must be suspected. The electrocardiogram of course is a valuable diagnostic aid if an abnormal tracing is obtained. A normal tracing does not exclude angina, even if the record is taken during the anginal episode.

The pain of pericardial origin may mimic that of angina in its location, but may be either a sharp sticking pain or an ache of longer duration. The pain of pericarditis may also be influenced by position: Rolling from one side to the other, or sitting up or lying down. When the pain of pericarditis appears, careful and repeated auscultation of the heart with the patient in many different positions, most often will reveal the pericardial friction rub within 24 hours. Chest roentgenography is not often useful in the diagnosis of acute pericarditis because the pericardium will distend only slowly. The electrocardiogram however, will usually be abnormal and may be diagnostic.

The chest pain of dissecting aneurysm of the aorta may mimic that of myocardial infarction closely and indeed, is sometimes accompanied by myocardial infarction when the dissection involves a coronary ostium. Often, this diagnosis may rest on the finding of an absent or diminished pulse in the arms or neck. Dissection of the aortic arch may be radiographically evident by notching of the arch to the left of the sternum or by a thickened aortic wall (when one has a calcified intima from which to judge thickness). Dissection of the thoracic or descending aorta may result in ripping or tearing back pain and may cause neurological disturbances in the lower half of the body and legs by disruption of the blood supply of the spinal cord through the small segmental aortic branches. In this condition, the electrocardiogram is not diagnostic, but it may be helpful in excluding other causes of chest pain such as myocardial infarction.

The pain in pulmonary artery hypertension is much like that described in angina, and may at times be identical. It does, however, tend to be located higher in the chest, sometimes extending up to the shoulders bilaterally and may be of somewhat longer

duration than angina. It is less consistently associated with known precipitating factors such as exercise, eating and emotion than is angina and its relief is less certain by rest. Nitroglycerin rarely results in significant improvement and is relatively contraindicated due to its peripheral vasodilating potential in low cardiac output states frequently associated with pulmonary hypertension. As with angina pectoris, the exact origin of the pain has been debated, but it seems most likely due to distention of the major pulmonary arteries. Examination of the patient who has murmurs due to a congenital anatomic defect or mitral stenosis, a right ventricular impulse along the left sternal border, a markedly increased pulmonary second sound and the peripheral signs of cyanosis or clubbing of the nail beds may be valuable leads in the diagnosis of this type of pain. Chest roentgenography may be very helpful and show right ventricular enlargement or changes in the pulmonary vasculature. The electrocardiogram usually shows evidence of right ventricular hypertrophy.

II. PAIN OF ESOPHAGEAL ORIGIN

The pain of hiatus hernia is one of those most frequently confused with angina pectoris. This abnormality may be accompanied by gastric reflux into the distal esophagus and may be associated with diaphragmatic irritation. When there is esophagitis, reflux of acid into the esophagus from the stomach generally results in a burning substernal type pain, called by many patients "heart burn." The pain of diaphragmatic irritation may produce a sense of shortness of breath,

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substernal fullness or oppression and may cause aching in either shoulder. Seldom, however, does this pain radiate down beyond the mid-upper arm. Help may be obtained in making the diagnosis of esophagitis by delivery of small amounts of dilute hydrochloric acid into the distal esophagus by means of a tube, with the appearance of the pain and its relief by subsequent delivery of a neutralizing substance.¹ Roentgenography of the barium filled esophagus will make the diagnosis of the large "fixed" hiatus hernia and often shows the changes of esophagitis but the frequency of demonstration of the small sliding hiatus hernia in asymptomatic people leaves doubt as to its significance. Another type of esophageal discomfort is that produced by diffuse or segmental esophageal spasm. This may be severe pain beginning in the epigastrium, extending into the chest retrosternally and sometimes into the posterior pharynx. This pain may also be described as squeezing, constricting or oppressive. A firm diagnosis of this type of pain may be made by delivery of a balloon tip catheter into the esophagus and recording intraluminal pressure coincident with the patient's discomfort.²

III. PLEURAL AND TRACHEOBRONCHIAL PAIN

Pleural pain, although classically thought of as increasing with respiratory motion, does not always do so, and may be only a dull constant ache in one or another portion of the chest. Usually the location of the pain gives a good clue to the location of the disease, however, an irritating lesion of the pleura immediately adjacent to an intercostal nerve may cause neuritic pain at some distance from the actual lesion. A pulmonary embolus may cause typical pleuritic pain with no roentgenologically demonstrable lesion, unless a large segment of lung is involved, and then sometimes only after 24 to 48 hours after its onset. The electrocardiogram may be helpful in this diagnosis. The presence of hemoptysis is a valuable sign but it is present in probably no more than half the cases.

The pain of spontaneous pneumothorax may be pleuritic or it may be only a dull ache in one or the other shoulder with per-

haps some pleuritic component to the discomfort. There may be a tracheal shift away from the side of the lesion if air continues to accumulate in the pleural space under tension. Breath sounds are diminished or absent on the side in which the pneumothorax has occurred if it is extensive.

The pain of tracheal inflammation is usually a dull ache in the mid-upper chest, accompanied by sharp tearing discomfort in the same area on coughing. Special mention must be made however, that like the pain of angina pectoris, the pain of tracheitis may be intensified by walking into a cold wind.

IV. CHEST WALL PAIN

Chest wall pain is a frequent occurrence. Myalgia may result from coughing, over use of muscles or from no apparent reason. This pain also may be described as pleuritic although the pleura itself is not actually involved. When present, persistent examination of the intercostal spaces reveals tenderness of the involved muscles. Myalgia in the pectoral group or actual tear has caused many people to consult their physicians thinking that they had or were having heart pain; again, palpation of the chest wall results in the correct diagnosis. Nothing need be said about the pain of fractured ribs and herpes zoster; adequate examination reveals the source of this pain. Often overlooked is the discomfort of inflammation of the parasternal cartilage. This pain is frequently constant and may be confused by the patient with thoracic visceral pain. Firm pressure over the involved cartilage produces tenderness which the patient will readily identify as the offending structure.

V. HYPERVENTILATION SYNDROME

This interesting condition may be very disabling to some patients and confusing to the examining physician. The complaints, when referable to the chest, are usually a sense of tightness or constriction which may be similar to that found associated with coronary disease. There may be some accompanying pain usually in the anterior chest and this pain may radiate into the shoulders. The patient usually complains of shortness of breath. Hyperpnea, though it may be subtle, will be present. When the syndrome goes to its full blown proportions, with ting-

ling of the toes, fingers and circumoral region, the diagnosis usually becomes obvious. Questioning on whether the shortness of breath or the pain came first, also may help in the diagnosis.

SUMMARY

By means of careful history, physical examination and judicious use of laboratory

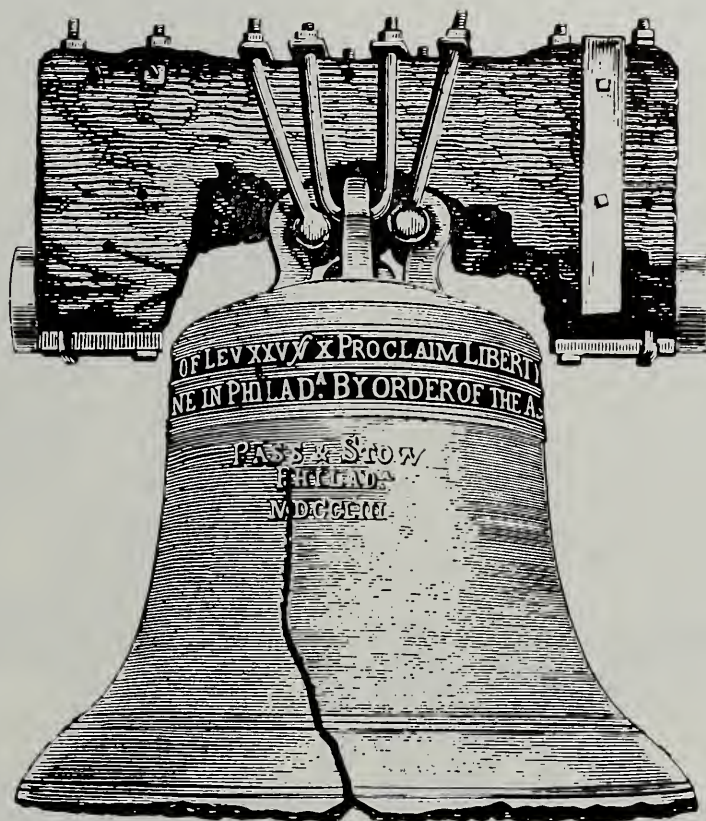
testing, the origin of most chest pain can be determined with confidence. Then, not only can specific treatment be undertaken but also many erroneous diagnoses of coronary disease can be avoided. □

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SEARLE

*Research in the
Service of Medicine*

Fractures of the Calcaneus:

The Mechanics of Fractures Involving the Articular Facets

GAEL R. FRANK, M.D.
KENNETH H. JOHNSTON, M.D.

Without a clear understanding of the mechanics by which these injuries are produced, a rational approach to their treatment is impossible.

THE LOCATION and architecture of the calcaneus predispose it to several unusual fracture possibilities. Much of the literature dealing with treatment of these fractures presents methods without regard to an analysis of the overall problem, and applying a single method indiscriminately to all fractures often proves frustrating. As a result of this tendency, over forty different methods and modifications of treatment have been reported during the past century.¹² Fortunately more recent articles have brought the problems related to these frac-

tures into focus. The purpose of this paper is to review the current thinking regarding treatment of this difficult group of fractures, and to add some of our own observations. No attempt was made to include a complete bibliography which can be found in other recent references.^{15, 19}

This paper will not deal with the so-called "non-articular" fractures of the calcaneus such as fractures of the anterior process, linear fractures through the body and beak fractures, but will deal primarily with fractures which result in a depression of the posterior articular facet.

ANATOMY

The calcaneus forms the posterior element of the arch of the foot and receives the transmitted force of the body weight directly from the talus. It also acts as part of a lever to transmit forces exerted by the triceps surae muscle. The design of the calcaneus efficiently utilizes the volume of bone allotted to it.^{7, 8} The bone is composed of a thin cortical shell over an internal architecture of trabeculae or little beams of cancellous bone arranged

From the Department of Orthopedic Surgery and Fractures, University of Oklahoma Medical Center.



Figure 1. Anatomic preparation of the calcaneus as visualized in the tangential roentgenogram. In this section of the foot, the plane of the section shows the calcaneus as it is visualized in the tangential roentgenogram of the foot. (See figure 6) The peroneal tendons are held in a forceps. Notice their close proximity to the lateral cortex being separated from it by periosteum and a thin layer of tissue. The cortex of the calcaneus is very thin, and the main substance is composed of cancellous bone. The sustentaculum tali projects medially (arrow) and the tendon of the flexor hallucis longus lies beneath it. Notice the overall curvature of the calcaneus with the convexity of the curve directed laterally.

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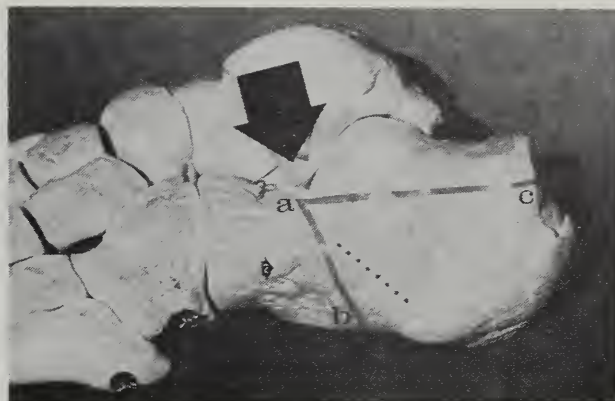


Figure 2. The calcaneus as visualized from the lateral side. The peroneal tubercle is indicated by arrow #2. In this view the fracturing force of the talus (represented by the large arrow) and especially the sharp anterior edge of the posterior articular surface (lateral spur of the talus) descends into the sulcus of the calcaneus (crucial angle) producing a primary fracture line (a-b). This is just anterior to a thickened ridge of cortical bone outlined by the dotted line. A secondary fracture line (a-c) is projected here which will result in a tongue-type fracture.

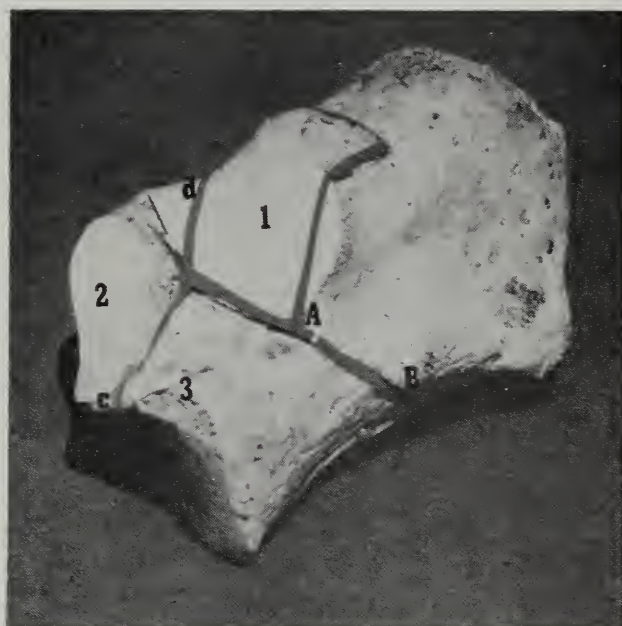


Figure 3. A second type of secondary fracture line is shown on this specimen. This fracture line encloses the posterior facet which will be impacted into the body of the calcaneus. The three superior articular facets are numbered to indicate their location. The posterior facet (1) is incompletely outlined by the secondary fracture line, the middle facet (2) can be seen at the top of the sustentaculum tali and the anterior facet (3) is seen just lateral to the anterior extreme of the middle facet. Line A-B is the primary fracture line and line c-d indicates a fracture line which will split the sustentaculum tali from the body of the calcaneus and extend into the calcaneo-cuboid joint in this case.

Fractures / FRANK & JOHNSTON

so as to best resist the stresses that are placed on the calcaneus during weight bearing in a wide variety of activities.

The cortical shell is thickened at several points on its lateral surface. One of these thickened portions forms the peroneal tubercle anterior to which passes the tendon of the peroneus brevis muscle, and posterior to which passes the tendon of the peroneus longus. Another thickened ridge of cortical bone begins just posterior to the peroneal tubercle and extends in a posterior and plantar direction ending in the lateral process of the tuberosity of the calcaneus (figure 2). The primary fracture line seen in depression fractures of the posterior facet of the calcaneus parallels this cortical ridge. On the medial surface of the calcaneus the cortex

forms a medially projecting buttress of bone termed the sustentaculum tali (figures 1 and 3).

There are three superior articular facets plus one articular facet which is directed anteriorly to articulate with the cuboid (figures 3-4). The most posterior of the superior articular facets is located on a prominence over the mid-portion of the body of the calcaneus. It is convex from behind forward, is directed upward and forward, and articulates with the posterior calcaneal articular surface of the body of the talus. The calcaneal sulcus is located just anterior to the posterior articular facet and with its counterpart, the sulcus tali, forms the sinus tarsi. The middle superior articular facet of the calcaneus is supported on the sustentaculum tali and articulates with the middle calcaneal facet on the under surface of the body of the

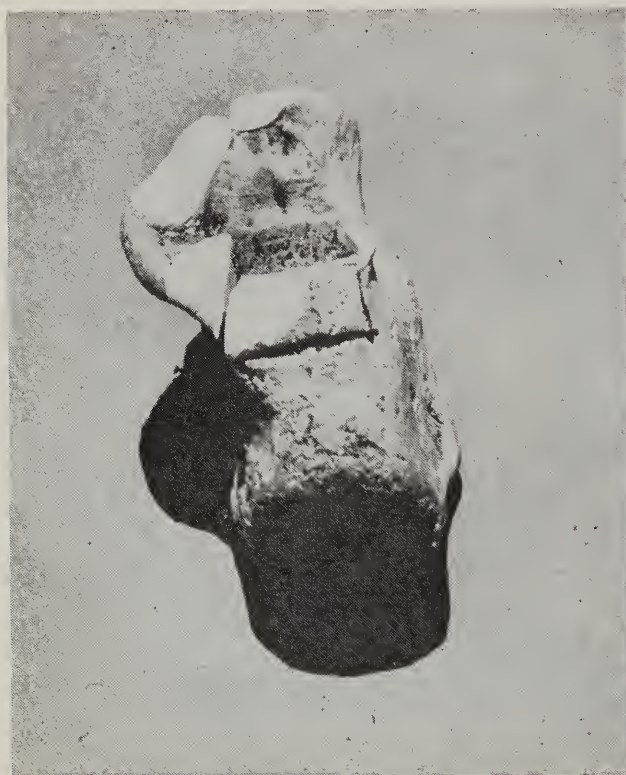


Figure 4-A

Figure 4-A. This model is seen as a calcaneus would be viewed in the tangential roentgenogram. It shows the posterior facet impacted into the body of the calcaneus producing a "step" effect when visualized by x-ray. As contrasted to Figure 4-B, the fracturing force was theoretically delivered with the calcaneus in a vertical position. The posterior facet is therefore not sheared to the medial side but is impacted directly into the body of the calcaneus.

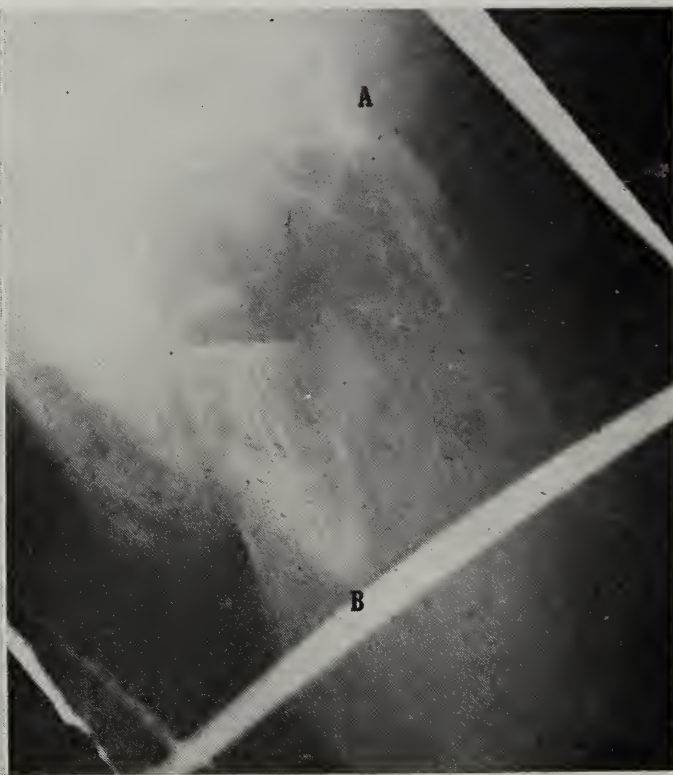


Figure 4-B

Figure 4-B. A "step" relationship is visualized here. The posterior facet is impacted obliquely into the body of the calcaneus. The lateral wall is intact. The sustentaculum tali has been returned to an almost normal elevation but is held medially by the impacted posterior facet which is blocking the lateral reduction of the sustentaculum. The mechanism of injury in this instance probably involved driving the talus into the calcaneus with the calcaneus in a valgus position giving an oblique line of shear. (A-B).



Figure 5-A

Figure 5-A. A model made of the calcaneus cut to show the principle of the tongue fracture. The posterior facet has been impacted into the body of the calcaneus elevating the other end of the lever arm and opening a space posteriorly.



Figure 5-B

Figure 5-B. This shows the value of recognizing this type of fracture because it can be reduced by inserting a heavy Steinman pin into the tongue and levering the posterior facet back to its normal relationship.

talus. The anterior articular facet is placed at the extreme anterior aspect of the superior surface of the calcaneus and articulates with the anterior-lateral or anterior-calcaneal articular surface of the head of the talus. (The remainder of the head of the talus is supported through its anterior

medial articular facet by the plantar calcaneonavicular or spring ligament).¹³

The calcaneus, as viewed in any roentgenographic projection, is made up of cancellous bone covered with a thin cortical shell. As viewed in lateral films the main pattern of compression trabeculae appears in the form of an arch. The apex or structural keystone of the arch is located directly beneath the posterior articular facet. The posterior elements of the arch are arranged in a sweeping curve directed to an apex beneath the posterior articular facet. At the anterior extreme the trabeculae comprising the arch are arranged in a vertical configuration apparently to give direct support to the anterior articular facet of the calcaneus. Beneath this arch is an area relatively free of trabeculae which assumes a triangular outline known as "Ward's Triangle."¹⁷ The apex of Ward's Triangle lies beneath the calcaneal sulcus. (Many of these features are preserved in the fractured calcaneus illustrated in figure 9-A.)

MECHANISM OF INJURY

The mechanism of the injury which produces joint depression fractures of the calcaneus will be explained first by visualizing the calcaneus from the lateral aspect. A force transmitted to the calcaneus either by the talus being driven into the calcaneus



Figure 6. Schematic representation of the means of obtaining a tangential view of the calcaneus with the foot supine on the cassette and the x-ray tube angled 45 degrees into the sub-talar joint. The x-ray tube should be parallel with the alignment of the posterior facet. In this case the foot should be in more plantar flexion to place the calcaneus in a vertical position. This will project the posterior facet in profile. Broden's oblique views are a modification of this projection, one set taken with the foot internally rotated 45 degrees and the other set being taken with the foot externally rotated 45 degrees. (see text).

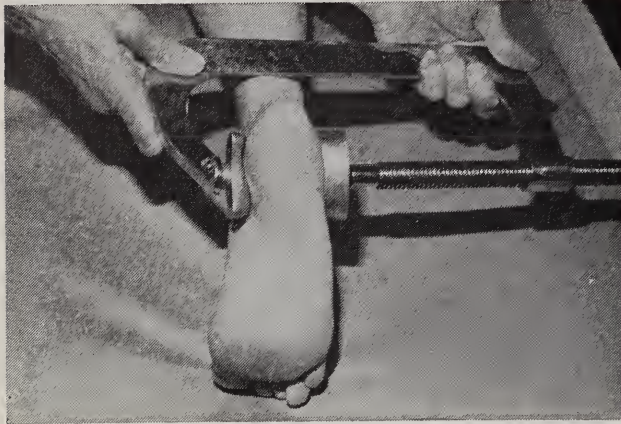


Figure 7. This shows the use of the Bohler clamp in compressing the lateral bulging of the calcaneus. It provides a simple means of restoring the architecture of the fractured calcaneus in which widening is a prominent component.

from above, or the calcaneus being driven into the talus from below, causes first a primary fracture line.⁸ This primary fracture line traverses the relatively trabeculae free area of Ward's Triangle, and appears to be initiated when the sharp anterior margin of the posterior facet of the talus is driven into the sulcus of the calcaneus. This fracture line originates at the sulcus and extends posteriorly and inferiorly to a point just anterior to the lateral process of the calcaneus. As noted previously this fracture line parallels the thickened ridge of cortical bone on the lateral surface of the calcaneus (figure 2). The superior portion of the medial wall of the calcaneus is greatly strengthened by the cortical bone forming the sustentaculum tali. This is removed if the fracturing force splits the sustentaculum tali from the main body of the calcaneus (figure 3). This will completely disrupt the architecture of the calcaneus, and as the fracturing force continues, it impacts the posterior articular facet into the calcaneus to varying depths.^{8, 17}

With impaction of the posterior articular facet, a secondary fracture line develops. This secondary fracture line can take one of two forms. The first merely outlines the posterior facet as it is driven into the body of the calcaneus and results in what is classified as a central depression type of intra-articular fracture (figure 3).

Should the posterior articular facet remain attached to the superior cortical roof

of the calcaneus, a secondary fracture line will develop beginning at the sulcus of the calcaneus and extending in almost a straight line posteriorly through the tuberosity of the calcaneus (figure 2). This produces a first class lever or see-saw effect in which the fulcrum of the lever is located just behind the articular facet. As the articular facet is driven into the calcaneus, the other end of the lever rises producing a split in the tuberosity posteriorly (figure 5-A).

In visualizing an injury to the calcaneus as viewed in a tangential roentgenogram (figure 4-A) two forms of injury are possible. If the talus is driven into the calcaneus with the calcaneus in an essentially vertical position, there will be a direct impaction of the posterior facet into the body of the calcaneus with considerable buckling of the lateral cortex. However, if the calcaneus is in the position of valgus as the talus descends, there will be a shearing action on the sustentaculum and medial portion of the facet, and the fracture line will extend obliquely across the body of the calcaneus (figure 4-B).

If the fracture force continues, two other types of intra-articular fractures are produced: The severely comminuted or the "crush type." Accessory fracture lines can extend into the calcaneo-cuboid joint and may represent either buckling of the lateral cortex with extension into this joint, or the shearing of the fractured sustentaculum tali extending to the joint (figure 3).

An appreciation of the above mechanism of injury led to Essex-Lopresti's classification of sub-talar fractures of the calcaneus.⁸

1. Linear (without displacement)
2. Central depression
3. Tongue type
4. Sustentaculum tali fracture alone
5. Severely comminuted

The above classification of the fractures would have little value if it were not in some way related to treatment. The goals of treatment as related to restoring the original bony architecture involve elevating the posterior facet to its original height, reducing the width of the buckled lateral cortex, and restoring the sustentaculum tali to its proper position. These anatomic objectives will be discussed under treatment.



A

B



C

D

Figures 8 A-D. Roentgenograms of Case #1.

Figures 8 A and C show the left calcaneus and Figures 8 B and D show the right calcaneus as pre-reduction fractures and at six months post-reduction.

Fractures / FRANK & JOHNSTON

ROENTGENOGRAPHIC ANALYSIS OF THE FRACTURES

Two roentgenographic views of any suspected fracture of the calcaneus are an absolute minimum. The first is a lateral view taken with the lateral surface of the calcaneus against the cassette. The second is a tangential view of the calcaneus. The tangential view is taken with the foot and leg supine on the cassette with the ankle in the neutral position. The x-ray tube is angled into the sub-talar joint at about 45 degrees. The calcaneus should be vertical to the cassette. (figure 6)

In the lateral view of the calcaneus the important relationships are the depth to which the posterior facet has been driven into the body of the calcaneus, and the character of the secondary fracture lines; that is, whether there is a simple central depression, or whether the tongue type fracture is present. Measurement of the tuber joint angle of Böhler provides a means by which one relatively unaccustomed to reading roentgenograms of the calcaneus can determine whether or not a fracture is actually present (Normal angle = 20° - 40°) (figure 9-A).

The tuber joint angle of Böhler can be used as an index to calibrate the amount of depression of the posterior facet. Since it has very little, if any, correlation with the final result, and since it does not accurately describe or measure what has actually happened to the posterior facet, a simple word description of the location of the facet is sometimes more valuable in communicating an impression of the deformity.

Interpretation of the tangential view of the calcaneus should indicate the amount of widening which has taken place as the result of buckling of the lateral cortex. The amount of overriding on the medial cortex caused by a depression of the sustentaculum tali can be determined. If the posterior facet is well visualized, the amount of its depression can be gauged accurately. This depression of the posterior facet will project as a "step" defect if the lateral wall and sustentaculum have returned to their normal height (figure 4-B).

Once it is determined that the fracture involves a depression of the posterior facet, additional special roentgenograms, including the oblique views advocated by Broden in 1949, may be employed to evaluate the exact position of the posterior facet. In both of Broden's projections, the patient is placed supine with the ankle in neutral position, similar to the position used for the tangential view of the calcaneus. In Broden's first projection, the leg and foot are turned 45 degrees inward and the central ray is directed against a point two or three centimeters below and anterior to the lateral malleolus. With the foot and leg in this position, four pictures are taken with the tube angled 40, 30, 20, and 10 degrees respectively toward the head.

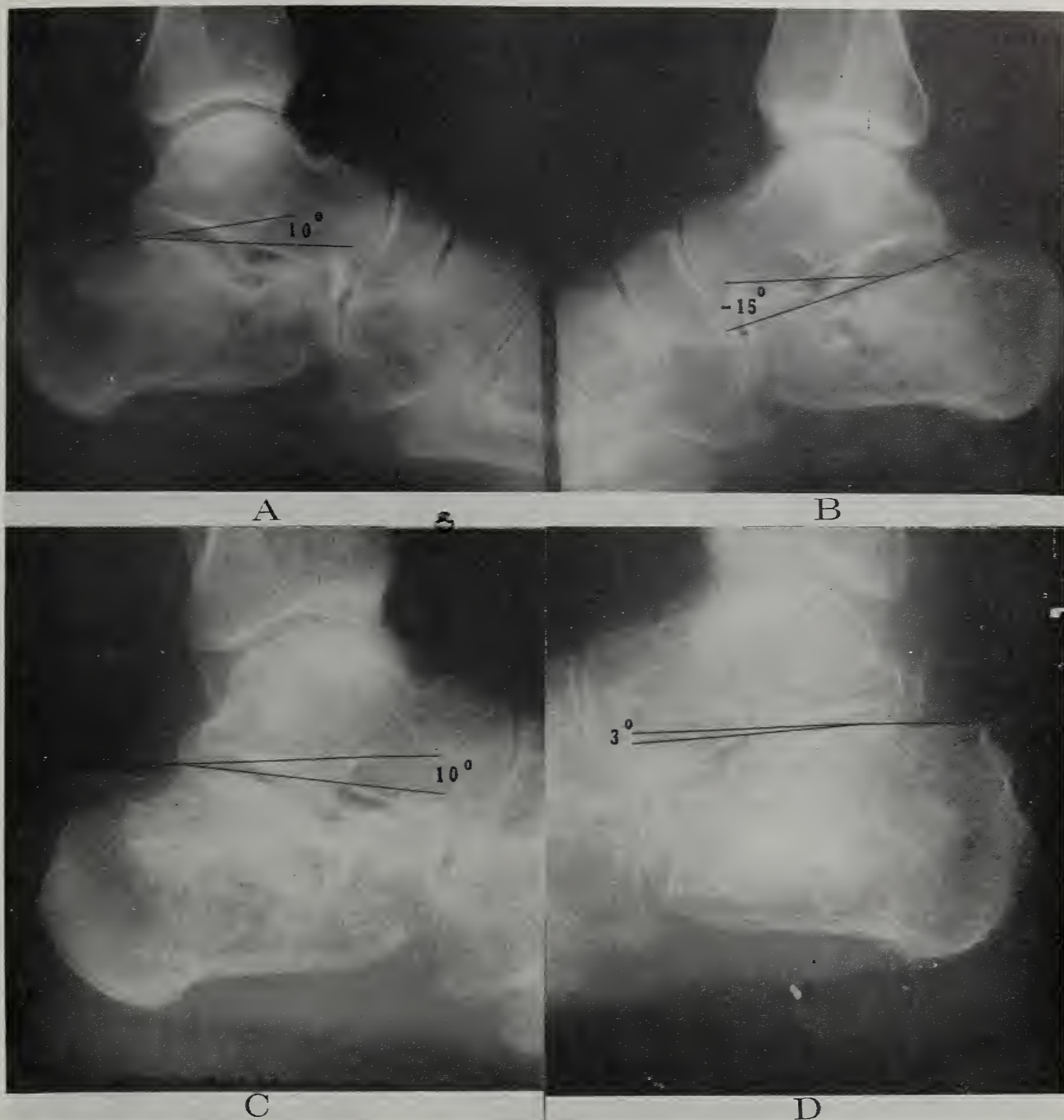
The second projection is taken with the foot and leg externally rotated 45 degrees and the central ray is directed against a point two centimeters below and anterior to the medial malleolus with the tube angled about 15 degrees toward the head.

TREATMENT

Principles of Primary Treatment: The greatest error in treating fractures of the calcaneus arises from a tendency to treat all fractures with a single method without regard to the type of fracture involved. It would be reasonable to use a *single* method for all fractures only if the entire spectrum of fractures were to be treated by ultra conservatism. Good results have been reported by various authors utilizing ice bags, elevation and compression bandages with early active motion and delayed weight bearing. However, problems arise when the calcaneus is assailed with a variety of pins, traction apparatus, clamps, hammers, and chisels with the post reduction roentgenogram resembling very much the pre-reduction roentgenogram, and an os calcis now additionally traumatized or possibly even infected by attempts at reduction.

Treatment should aim at accomplishing the following:

1. Elevate the posterior facet and sustentaculum to their former position;
2. Restore the normal width of the calcaneus;
3. Maintain reduction;



Figures 9 A-D. Roentgenograms of Case #1.

Figures 9 A and C show the left calcaneus and figures 9 B and D show the right calcaneus as pre-reduction fractures and six months post-reduction.

4. Establish early motion in the ankle, sub-talar and mid-tarsal joints to prevent residual stiffness, atrophy and pain;
5. Delay weight bearing until healing of the fracture is completed.
1. Elevate the Posterior Facet to its Former Position:
The posterior facet can be elevated by three or four general means:
 - a. The posterior facet can be elevated di-

- rectly by open reduction, packing bone beneath it.¹⁷
- b. The posterior facet and sustentaculum can be elevated indirectly by:
 - (1.) Pulling the remainder of the calcaneus distally thus, in effect, elevating the posterior facet. If the posterior facet has maintained its ligamentous attachments to the talus, this facet will be reduced as the remainder of the calcaneus is

pulled distally (figure 11-A, B).

(2.) Quite frequently in correcting the lateral bulging of the calcaneus by lateral compression, the posterior facet is literally squeezed back into its normal position (figure 10-A to B).

(3.) If the posterior facet is attached to a long tongue of the superior calcaneus, sometimes it can be elevated into position by the lever action of depressing the posterior one-half of the lever arm^{8, 10} (figure 5-B).

2. Restore the Normal Width of the Calcaneus:

A simple method involves the application of pressure directly to the lateral wall of the calcaneus with a Böhler clamp⁵ (figure 7).

3. Maintain Reduction:

Reduction can be maintained either by a well molded cast or by bone packed beneath the posterior facet in the event that an open reduction is done. The temptation to leave pins protruding from the calcaneus should be resisted, and according to some authors should be avoided altogether.¹⁵ One disastrous osteomyelitis in the predominately cancellous calcaneus can lead to years of crippling. Even one avoidable osteomyelitis in a series of one hundred fractures is too many. Possibly by three to four weeks the primary callus will allow active motion, but certainly weight bearing should not be started before two to three months.

4. Maintain Motion:

The final result very often does not correlate with the reduction as visualized by roentgenograms, but correlates quite well with the overall condition of the tissues of the foot. Some authors feel that early motion will improve the final result by maintaining a good range of motion in the subtalar and mid-tarsal joints while preventing atrophy and edema. At the other end of the spectrum there is merit in prolonged immobilization if it results in automatic subtalar fusion and a pain-free joint.

5. Delay Weight Bearing:

Unlimited weight bearing should be delayed two to three months in spite of the appearance of the roentgenograms. Experi-

ence has shown that healing is not complete until this time.

Secondary Treatment: A commonly used salvage procedure is a sub-talar or a triple arthrodesis in the event that pain in these joints prevents rehabilitation. Other procedures to alleviate pain such as section of the sural nerve for pain along the lateral border of the calcaneus, or other denervating procedures about the calcaneus may have merit. In the event there is a large bulge of bone beneath the peroneal tendons where they traverse the peroneal trochlae on the lateral side of the calcaneus, one might consider removing this bone if it is obviously the prime source of difficulty.

Complications of Treatment: The most tragic complication is osteomyelitis of the calcaneus which gives a uniformly unsatisfactory result. A less disastrous complication is loss of motion in the joints of the ankle and foot. This is not always disabling and an automatic painless, sub-talar fusion may give an excellent result. This sub-talar fusion may be either bony or fibrous. Bony proliferation laterally may cause synovitis and impair the function of the peroneal tendons.

Persistent pain in the foot without an apparent anatomic basis is probably the most frustrating complication. Such pain may persist even after triple arthrodesis and defy all efforts to alleviate it. Atrophic changes appear in the bones and soft tissues of the foot; these may result from prolonged immobilization or be part of a so-called "reflex sympathetic dystrophy."

EVALUATION OF THE FINAL RESULTS OF TREATMENT OF INTRA-ARTICULAR FRACTURES OF THE CALCANEUS

SUBJECTIVE SYMPTOMS

Regardless of the amount of the residual deformity in the foot, the single most important factor in evaluating the end result involves the severity of the pain about the heel and foot. An important consideration here is the degree to which this pain incapacitates the patient in his activities. The pain is characteristically noted following walking on rough surfaces or after pro-



Figures 10 A-D. This case was selected to show how the fracture fragments can be molded into position with a Bohler clamp. Figures 10 A and B are the original fracture and figures 10 C and D show the result five months later.

longed use. In some patients the pain may be noted only with changes in the weather. Patients occasionally notice numbness along

the lateral border of the foot possibly due to impairment of the function of the sural nerve related to broadening of the heel.

OBJECTIVE FINDINGS

The range of motion of the ankle joint can be readily measured and compared with the opposite ankle or with what are considered normal values to arrive at a determination of restriction of motion. At the sub-talar, joint motion can be classified as abolished, restricted, or normal. The same rating can be used for mid-tarsal joints of the foot, measuring the amount of abduction and adduction possible.¹⁸

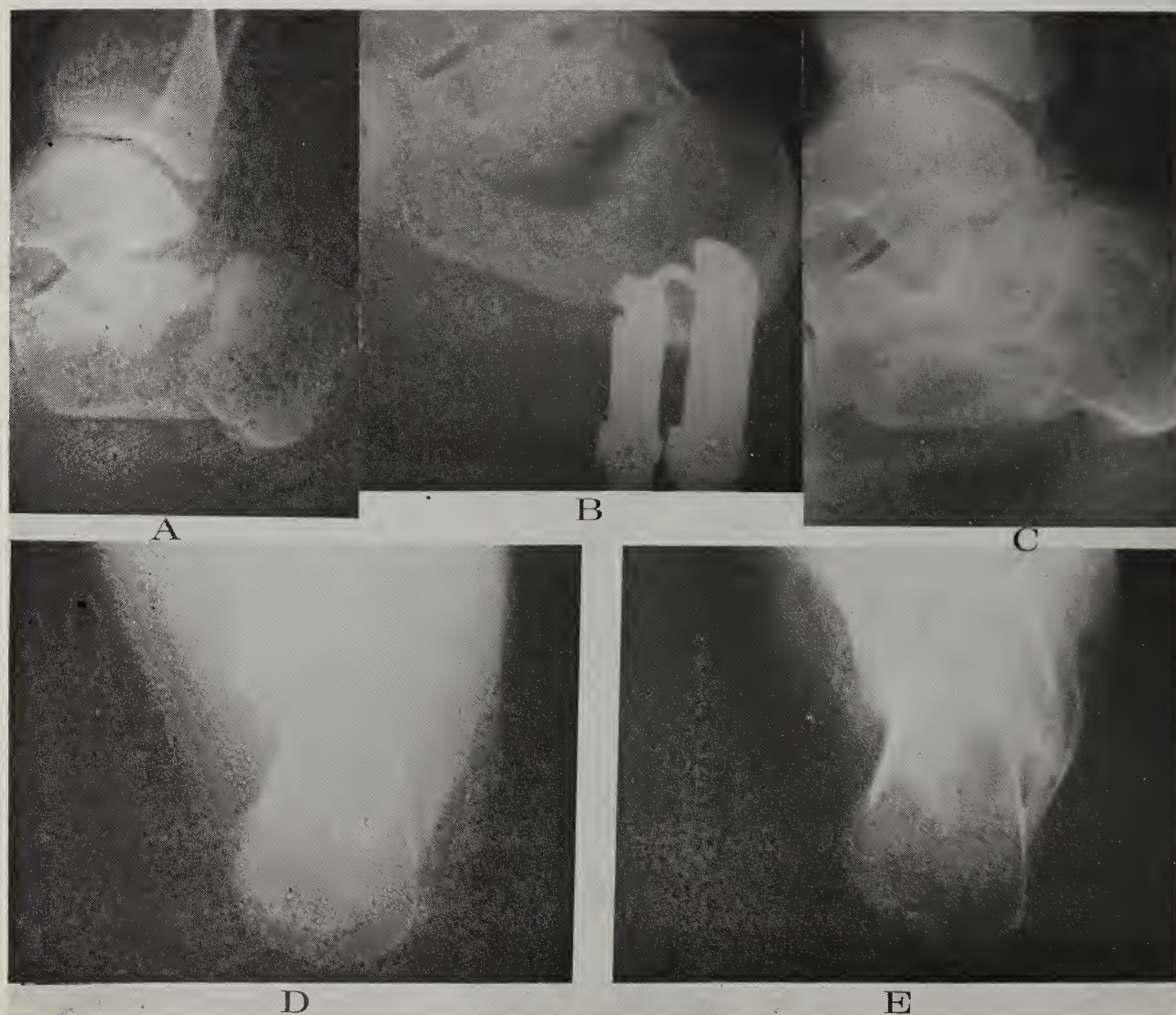
Atrophy of the calf muscles can be measured directly and the presence or absence of edema of the foot should be noted. In checking for edema it is well to ask the patient if he observes it at times other than at the time of examination.

Another directly measurable deformity is the amount of broadening of the heel. This can be measured with calipers and compared with the opposite side. The degree of broadening can be determined from a tangential roentgenogram. A valgus deformity beyond acceptable limits is another condition which can be noted as present or absent.

All the above factors are important as related to actual function, and the patient's walking gait should be observed carefully.

ROENTGENOGRAPHIC ANALYSIS OF
THE FINAL RESULT

Correlation of the configuration of the calcaneus as seen on the roentgenogram with the final result is unreliable for a specific instance although there is some statistical correlation. It is obvious that a roentgeno-



Figures 11 A-E, Case #3.

Figures A and D are the pre-reduction x-rays and Figures C and E show the healed fracture at eight months.

gram cannot in any way reflect the amount of pain experienced by the patient nor does it indicate the quality of function. Some statistical correlation has been noted since the severity of the fracture will be reflected in the roentgenogram of the final result.¹⁹ The oblique views of Broden are helpful in visualizing arthritic spurs about the sub-talar joint.

ILLUSTRATIVE CASES

A large series of case reports will not be presented since the scope of this paper is to review current concepts. Three cases were selected to illustrate some of the basic principles of fracture treatment as applied to intra-articular fractures of the calcaneus.

CASE #1

A 60-year-old white male sustained a bilateral fracture of the calcaneus. Figures 8 A-B are the pre-reduction roentgenograms and figures 8 C-D show the final result six months after injury. The fracture on the left was treated by closed reduction with a Böhler clamp to correct lateral bulging. In this instance we were successful in elevating the posterior facet by literally "squeezing" it back into position. At the same time the width of the calcaneus was appreciably decreased. The fracture on the right does not show much lateral bulging but it appears to represent primarily impaction of the facet into the body of the calcaneus. This was treated by open reduction and packing of bone graft beneath the elevated posterior facet.

Figure 9 A-D shows the lateral views of the fractures shown in Figures 8 A-D. Notice that in both instances the posterior facet has been returned to a position which gives normal appearing architecture although measurement of Böhler's angle in each instance shows less than the desired 20 to 40 degrees. The most improvement compared with the pre-reduction film is seen on the right. However, on this side we obtained the poorest result, because of residual swelling. The patient is still not able to be active to a point that he experiences pain on either side, but he may never regain enough activity to push these heels to the point of pain. In the final result on the right, there appears to be a bony bridge developing in the sub-talar

joint and clinical examination shows virtually no motion in this joint.

CASE #2 (Figure 10 A-D)

This individual illustrates a situation where it was possible to restore the overall architecture of the calcaneus merely by compressing the lateral bulging with a Böhler clamp. It is surprising how well the position of the posterior facet can be improved by this treatment. It is most easily improved when there is a considerable bulging of the lateral cortex. One would expect this bulging if the calcaneus were in an essentially neutral position when the talus is driven into it. Compare this with figure 4-B. A good result was obtained without significant residual pain, deformity or functional limitation. The associated tibial fracture was treated by open reduction and held with multiple screws.

CASE #3

This case illustrates the futility of restoring the original position of the articular facet without packing bone beneath it either directly in the form of an open reduction or indirectly by compressing the lateral bulging. The original architecture of the calcaneus is beautifully restored in figure 11-B, but a large space persists beneath the elevated posterior facet. As soon as the traction was removed the facet began to settle and six months after reduction the posterior facet is actually at a lower position than at the time of the fracture (figure 11-C). Figures 11 D and E show that the lateral bulging was not corrected. This 55-year-old white man had persistent pain in the sub-talar joint which required a sub-talar fusion six months following his injury.

SUMMARY

Intra-articular fractures of the calcaneus are analyzed. The anatomic alterations are correlated with the mechanism of injury, the x-ray findings and with a suitable method of treatment. The treatment for each fracture should be aimed at correcting the deformity and should be specifically tailored for the individual case. Guidelines are presented for analyzing the final result. Secondary procedures for improving unsatisfactory results are discussed. □

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PRESIDENT SEEKS MORE HEALTH LAWS

Despite the flood of major health measures approved by Congress this year, President Johnson apparently plans to propose more important health legislation next year. Health has been given top priority on the "great society" program, it appears.

Johnson has been telling Congressmen to think in terms of even greater strides next year.

To lay the groundwork for new legislation, he has called a White House Conference on Health November 3rd-4th.

Johnson recently took the occasion of signing two health bills to outline his new health goals:

—An increase in the average life expectancy from the present 70 years to 75 years.

—A reduction in infant mortality from the present rate of 25 deaths per 1000 births to 16 per 1000.

—Virtual elimination of polio, diphtheria and typhoid fever and an end to tuberculosis, measles and whooping cough.

—A reduction of 20 per cent in deaths from heart disease, cancer and stroke—the so-called "killer diseases" that now account for one-third of all U.S. deaths.

—Elimination of death and disability among children caused by rheumatic fever and rheumatic heart disease.

—Eradication of malaria and cholera from the entire world.

The chief executive said the purpose of the November conference is to bring together "the best minds and the boldest ideas to deal with the pressing health needs of the nation." He said he hopes the conference will develop "creative programs that will bring better health to every American."

ABSTRACTS

IATROGENIC HYPOGLYCEMIA IN RENAL FAILURE

Rothfeld, *et al.*, have reported an instance of a patient who developed prolonged and severe hypoglycemia as the result of renal insufficiency which apparently developed while he was taking chlorpropamide for diabetes. A 43-year-old male consulted a physician with coryza, sore throat, and symptoms of an upper respiratory infection, and was found at that time to have an elevated blood pressure and glycosuria. He felt better the following day and remained asymptomatic until approximately a week later, when he awoke with edema, dysarthria, right upper hemiplegia, and disorientation. When placed in the hospital, he was found to have a blood sugar of 38 mg per cent, and was given 50 ml. of 50 per cent glucose intravenously which resulted in prompt clearing of the neurologic derangement. Seven hours later, however, he had a convulsion followed by left hemiparesis and coma. A repetition of the 50 per cent glucose injection brought him around once more and a continuous drip of 10 per cent glucose was then begun. Despite this, blood sugar determinations made at 24 and 72 hours after admission were both reported 40 mg per cent, and on the fifth hospital day his blood sugar was still only 73 mg per cent. Only after four days did the patient mention the fact that he had been taking two pills a day for the preceding 14 days. These pills were subsequently identified as 100 mg. tablets of chlorpropamide. Routine laboratory studies on the day of admission showed protein and red cells in the urine, a blood urea nitrogen of 162 mg per cent, and other findings compatible with the diagnosis of glomerulonephritis. Indicated therapy including peritoneal dialyses was carried out, but the patient died five weeks after admission with renal failure. Autopsy confirmed the diagnosis of subacute glomerulonephritis.

REVIEWER'S NOTE: The prolonged action of chlorpropamide is in part due to the fact that it is not metabolized within the body, but is excreted by the kidneys in unaltered form. In the case of the patient reported above, something less than 100 ml. of urine was secreted each day, and he was therefore unable to rid himself of the drug. It is noteworthy by way of contrast that tolbutamide is largely oxidized in the body to an inactive product, so that its hypoglycemic activity is progressively destroyed—even if the kidneys fail. For this reason alone, it would seem advantageous to confine the use of chlorpropamide to those patients in whom adequate renal excretion can be assured.

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days, allowed 24 hours to clear the stomach of any remaining tetracycline, and then an overnight gastric specimen was obtained by lavage with normal saline. Half of each specimen was prepared in the usual way for Papanicolaou study and the other half was buffered, dried on filter paper and examined under ultraviolet light in a dark room. Bright yellow fluorescence by the specimen was considered a positive test for malignancy. Of 15 patients so studied, 12 readings were positive, one was inconclusive and two were negative. Gastric lavage specimens examined by Papanicolaou technique yielded only two positives, four inconclusives and nine negatives. Sputum Papanicolaou tests on the same patients provided seven positives, two inconclusives, three negatives and three specimens in which no bronchial cells of any sort were seen. A control group of 15 patients having non-malignant respiratory disease showed 14 negative and one positive reading by fluorescent examination of gastric washings. The exact diagnosis of the apparent false positive remains unsettled.

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Granuloma Formation Induced by Lipid Extracts of Pine Pollen. A. Lindner, T. Kutkam and F. Lindner. *Acta Medica Scandinavica* 176: (Suppl. 425) 51, 1964.
Apparatus for Group Concept Identification and Verbal Interaction. V. Pishkin and J. A. Foster. *Journal of Clinical Psychology* 21: 104, 1965.

Pneumatic Envelope to Avoid Hypotension Following Removal of Aortic Clamps. G. S. Campbell and R. H. Smiley. *Annals of Surgery* 160: 614, 1964.

BOOKS AS CLINICAL TOOLS

CLINICAL REFERENCES ON GASTROINTESTINAL DISEASE

JACK D. WELSH, M.D.

"Read with two objects; first, to acquaint yourself with the current knowledge on the subject and the steps by which it has been reached; and secondly, and more important, to understand and analyse your cases."—Osler

The recent increase of new knowledge relevant to gastroenterology has come from all disciplines of medicine and such diversity has tended to disseminate this information in a multitude of journals. Also, when a subspecialty includes as large an area as the esophagus, stomach, small and large intestine, gall bladder, liver and pancreas, it is difficult to find a single book or set of books that brings this information together in a clinically useful form. Unfortunately, most of the standard textbooks of medicine are not able to keep up, and they still contain many G. I. "mumpsimus."* The three volume, second edition of *Gastroenterology*¹ edited by Henry L. Bockus comes the closest to meeting the requirements since it comprehensively covers the most recent information of clinical relevance. Volume I (1963) covers the esophagus and stomach. Volume II, which includes absorption, nutrition, colon, peritoneum, mesentery and gastrointestinal parasites, was published in 1964. The third volume should appear soon and will encompass the liver, biliary tract, pancreas and secondary gastrointestinal disorders. Each volume contains the contributions of many authors who provide detailed information on the etiology, patho-physiology, diagnosis and treatment of each subject. In some cases,

One of a series sponsored by the Department of Continuing Education of the University of Oklahoma Medical Center.

*Mumpsimus: (n) an error or prejudice obstinately clung to: the term is supposedly taken from the story of an illiterate priest who, in his devotions, had for thirty years used *mumpsimus* for the proper Latin word *sumpsimus*, and who, on his mistake being pointed out to him, replied, "I will not change my old *mumpsimus* for your new *sumpsimus*." (Webster's New Twentieth Century Dictionary Unabridged, 2nd. Edition. The World Publishing Company, N. Y., 1961.)

the literature reviews are too wordy and the authors are rather dogmatic in their views. However, these volumes provide the reader with the collected knowledge and experience of others that may be of value in making decisions in one's own practice.

When a less extensive source is needed there are a few books that cover more limited areas. Either *Gastro-Intestinal Physiology* by D. F. Magee² or *Physiology of the Digestive Tract* by H. W. Davenport³ provide an opportunity to update oneself on the physiology of the G.I. tract. Both are slim volumes and are not encumbered with too many recitals of animal experiments. Although there are quite a few books that deal with hepatology, two have been the most consistently of value, in my opinion. The first, by Sheila Sherlock⁴ presents the views of the author and is patient-oriented, readable, concise and to the point. The second, edited by L. Schiff⁵ has multiple expert contributors and is broader in scope and coverage. Of possible interest to a few is the book by Janowitz and Dreiling⁶ on *Inflammatory Disease of the Pancreas*.

Three of the bimonthly paper back books on Modern Treatment by the Hoeber Medical Division are pertinent. Volume I, issues #2 and #6 (1964)^{7, 8} deal with liver disease and acid peptic disease and Volume II, issue #2 (1965)⁹ concerns malabsorption. The titles are somewhat misleading since the articles are not restricted to treatment, but provide concise information on patho-physiology and diagnosis in each condition. The issue on liver disease, for instance, has an excellent review of hepatic function tests. The views of the various authors are refreshing because they provide as strong evidence against some forms of treatment as they do for others. □

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Beta Adrenergic Blockade:

A New Class of Cardiovascular Drugs

CHARLES W. ROBINSON, JR., M.D.*

WHAT ARE adrenergic receptor blocking drugs? Since this question is asked with increasing frequency a brief review of sympathetic (adrenergic) function in relation to the cardiovascular system seems warranted.

Endogenous or administered catecholamines stimulate an effector cell to react in a certain manner. For example, when norepinephrine combines with myocardial cells an augmentation of the rate and contractile force of the heart results. Although the site and mechanism of the catecholamine-effector cell combination is unknown, a working concept of a receptor in or on a cell has evolved. Two types of adrenergic receptors are described, alpha and beta.¹ The alpha receptors are responsible for peripheral vasoconstriction and elevation of blood pressure. Beta receptor activation initiates vasodilation in skeletal muscle, venoconstriction and myocardial stimulation with an increase in cardiac rate and contractile force. Certain synthetic catecholamines can produce pure alpha or beta receptor responses. As examples, an alpha response occurs following methoxamine administration and a beta response occurs following isoproterenol administration. Norepinephrine is the major neurohumoral transmitter released in the body by sympathetic nerve stimulation. It combines with both receptor types. Similarly, both alpha and beta receptor responses follow either the administration or adrenal medullary release of epinephrine.

Compounds are available which selectively inhibit these adrenergic functions by blockade of the receptors. They are identified as alpha or beta adrenergic receptor blocking drugs. By definition, such compounds have no effect on autonomic ganglia or on the formation or release of norepinephrine at the sympathetic nerve ending. Alpha receptor blocking drugs (phentolamine and phenoxybenzamine) are clinically useful as an aid in the diagnosis and management of the patient with pheochromocytoma. These compounds block the vasoconstrictor effect of norepinephrine or administered catecholamines. In recent years two beta blocking drugs have been investigated in a clinical setting, pronethalol and propranolol. Both drugs are structurally similar to isoproterenol. Blockade of beta adrenergic receptors should result in decreased heart rate, decreased strength of myocardial contraction and increased peripheral resistance. The administration of beta blocking drugs to normal subjects or to people with various types of cardiovascular disease causes a variable and usually slight decrease in the heart rate at rest. During exercise, less increment in heart rate occurs and cardiac output is either unchanged or decreased from that of the untreated control state.²⁻⁶ Such observations emphasize the importance of the sympathetic nervous system in mediating the cardiovascular response to exercise. Harrison, *et al.*,⁴ observed a decrease in severity of the left ventricular outflow obstruction in patients with hypertrophic subaortic stenosis when one of these compounds was administered. In patients with Fallot's tetralogy, Honey and associates demonstrated less ar-

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Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

terial oxygen desaturation during exercise after beta receptor blockade.⁷ In these two situations a reduction in the strength of myocardial contractility resulted in decrease in effective outflow tract obstruction and a relative improvement in the cardiac status.

Beta receptor blockade has been evaluated in patients with angina pectoris. The cardiac changes which are induced are thought to be beneficial by control of the increase in heart rate and ventricular contractility of sympathetic stimulation and thereby lead to decreased cardiac work and myocardial oxygen requirements at any given level of energy expenditure. A reduction in the frequency and severity of episodes of angina pectoris as well as an increased ability to perform work without pain has been reported in a number of patients.^{2, 5, 8, 9, 10}

Several types of cardiac arrhythmias are precipitated or aggravated by sympathetic stimulation. The investigation of the effect of beta adrenergic receptor blockade is of interest. In patients with atrial fibrillation, decrease in ventricular rate occurs with administration of beta receptor blocking drugs. The reduction in rate is additive to the slowing produced by digitalis.^{11, 12} This action is of therapeutic benefit in the patient whose ventricular rate is difficult to control with large doses of a digitalis preparation. A rapid improvement in arrhythmias produced by digitalis toxicity has also been reported.^{11, 13} This effect is independent of the precipitating event leading to toxicity and of the type of arrhythmia present. Of particular interest is the decrease in frequency of ectopic ventricular beats in patients subjected to anesthesia¹⁴ or to a rebreathing procedure which elevates arterial pCO₂.¹² It is not certain whether the antiarrhythmic effects of this group of compounds are due to adrenergic receptor blockade or to some other mechanism of action.

Side effects and toxic reactions are frequent with these drugs but they vary with the compound being considered. Pronethalol produces thymic tumors and lymphosarcoma in mice. Some patients may experience dizziness, nausea, diarrhea, insomnia, pares-

thesias, fatigue and dermatoses. With the newer compound, propranolol, only infrequent dizziness and nausea occur and no carcinogenic effect has been reported.

It has been documented that sympathetic drive is important in maintaining cardiac compensation in congestive heart failure.¹⁵ As one would expect, beta adrenergic blockade has been implicated in precipitating and increasing the severity of congestive heart failure in several patients receiving these compounds. This effect of beta receptor blockade is the major limitation to the clinical usefulness of these drugs. Lowering of blood pressure has been observed as a side effect¹³ and therapeutically in hypertension¹⁶ it may be related to decreased cardiac output.

In summary, blockade of the adrenergic receptors primarily concerned with myocardial stimulation is currently under investigation both in this country and abroad. Considerable knowledge concerning adrenergic effect on the circulatory system has been obtained and more will be forthcoming. Perhaps other clinically useful compounds will be developed. Further developments in this field should be watched with interest. □

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BOOKS AS CLINICAL TOOLS

CLINICAL REFERENCES ON GASTROINTESTINAL DISEASE

JACK D. WELSH, M.D.

"Read with two objects; first, to acquaint yourself with the current knowledge on the subject and the steps by which it has been reached; and secondly, and more important, to understand and analyse your cases."—Osler

The recent increase of new knowledge relevant to gastroenterology has come from all disciplines of medicine and such diversity has tended to disseminate this information in a multitude of journals. Also, when a subspecialty includes as large an area as the esophagus, stomach, small and large intestine, gall bladder, liver and pancreas, it is difficult to find a single book or set of books that brings this information together in a clinically useful form. Unfortunately, most of the standard textbooks of medicine are not able to keep up, and they still contain many G. I. "mumpsimus."* The three volume, second edition of *Gastroenterology*¹ edited by Henry L. Bockus comes the closest to meeting the requirements since it comprehensively covers the most recent information of clinical relevance. Volume I (1963) covers the esophagus and stomach. Volume II, which includes absorption, nutrition, colon, peritoneum, mesentery and gastrointestinal parasites, was published in 1964. The third volume should appear soon and will encompass the liver, biliary tract, pancreas and secondary gastrointestinal disorders. Each volume contains the contributions of many authors who provide detailed information on the etiology, patho-physiology, diagnosis and treatment of each subject. In some cases,

the literature reviews are too wordy and the authors are rather dogmatic in their views. However, these volumes provide the reader with the collected knowledge and experience of others that may be of value in making decisions in one's own practice.

When a less extensive source is needed there are a few books that cover more limited areas. Either *Gastro-Intestinal Physiology* by D. F. Magee² or *Physiology of the Digestive Tract* by H. W. Davenport³ provide an opportunity to update oneself on the physiology of the G.I. tract. Both are slim volumes and are not encumbered with too many recitals of animal experiments. Although there are quite a few books that deal with hepatology, two have been the most consistently of value, in my opinion. The first, by Sheila Sherlock⁴ presents the views of the author and is patient-oriented, readable, concise and to the point. The second, edited by L. Schiff⁵ has multiple expert contributors and is broader in scope and coverage. Of possible interest to a few is the book by Janowitz and Dreiling⁶ on *Inflammatory Disease of the Pancreas*.

Three of the bimonthly paper back books on Modern Treatment by the Hoeber Medical Division are pertinent. Volume I, issues #2 and #6 (1964)^{7, 8} deal with liver disease and acid peptic disease and Volume II, issue #2 (1965)⁹ concerns malabsorption. The titles are somewhat misleading since the articles are not restricted to treatment, but provide concise information on patho-physiology and diagnosis in each condition. The issue on liver disease, for instance, has an excellent review of hepatic function tests. The views of the various authors are refreshing because they provide as strong evidence against some forms of treatment as they do for others. □

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One of a series sponsored by the Department of Continuing Education of the University of Oklahoma Medical Center.

*Mumpsimus: (n) an error or prejudice obstinately clung to: the term is supposedly taken from the story of an illiterate priest who, in his devotions, had for thirty years used *mumpsimus* for the proper Latin word *sumpsimus*, and who, on his mistake being pointed out to him, replied, "I will not change my old *mumpsimus* for your new *sumpsimus*." (Webster's New Twentieth Century Dictionary Unabridged, 2nd. Edition. The World Publishing Company, N. Y., 1961.)

Beta Adrenergic Blockade:

A New Class of Cardiovascular Drugs

CHARLES W. ROBINSON, JR., M.D.*

WHAT ARE adrenergic receptor blocking drugs? Since this question is asked with increasing frequency a brief review of sympathetic (adrenergic) function in relation to the cardiovascular system seems warranted.

Endogenous or administered catecholamines stimulate an effector cell to react in a certain manner. For example, when norepinephrine combines with myocardial cells an augmentation of the rate and contractile force of the heart results. Although the site and mechanism of the catecholamine-effector cell combination is unknown, a working concept of a receptor in or on a cell has evolved. Two types of adrenergic receptors are described, alpha and beta.¹ The alpha receptors are responsible for peripheral vasoconstriction and elevation of blood pressure. Beta receptor activation initiates vasodilation in skeletal muscle, venoconstriction and myocardial stimulation with an increase in cardiac rate and contractile force. Certain synthetic catecholamines can produce pure alpha or beta receptor responses. As examples, an alpha response occurs following methoxamine administration and a beta response occurs following isoproterenol administration. Norepinephrine is the major neurohumoral transmitter released in the body by sympathetic nerve stimulation. It combines with both receptor types. Similarly, both alpha and beta receptor responses follow either the administration or adrenal medullary release of epinephrine.

Compounds are available which selectively inhibit these adrenergic functions by blockade of the receptors. They are identified as alpha or beta adrenergic receptor blocking drugs. By definition, such compounds have no effect on autonomic ganglia or on the formation or release of norepinephrine at the sympathetic nerve ending. Alpha receptor blocking drugs (phentolamine and phenoxybenzamine) are clinically useful as an aid in the diagnosis and management of the patient with pheochromocytoma. These compounds block the vasoconstrictor effect of norepinephrine or administered catecholamines. In recent years two beta blocking drugs have been investigated in a clinical setting, pronethalol and propranolol. Both drugs are structurally similar to isoproterenol. Blockade of beta adrenergic receptors should result in decreased heart rate, decreased strength of myocardial contraction and increased peripheral resistance. The administration of beta blocking drugs to normal subjects or to people with various types of cardiovascular disease causes a variable and usually slight decrease in the heart rate at rest. During exercise, less increment in heart rate occurs and cardiac output is either unchanged or decreased from that of the untreated control state.²⁻⁶ Such observations emphasize the importance of the sympathetic nervous system in mediating the cardiovascular response to exercise. Harrison, *et al.*,⁴ observed a decrease in severity of the left ventricular outflow obstruction in patients with hypertrophic subaortic stenosis when one of these compounds was administered. In patients with Fallot's tetralogy, Honey and associates demonstrated less ar-

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From the Departments of Medicine and Pharmacology, University of Oklahoma Medical Center, Oklahoma City, Oklahoma. Produced under the auspices of the Professional Education Committee of the Oklahoma State Heart Association.

terial oxygen desaturation during exercise after beta receptor blockade.⁷ In these two situations a reduction in the strength of myocardial contractility resulted in decrease in effective outflow tract obstruction and a relative improvement in the cardiac status.

Beta receptor blockade has been evaluated in patients with angina pectoris. The cardiac changes which are induced are thought to be beneficial by control of the increase in heart rate and ventricular contractility of sympathetic stimulation and thereby lead to decreased cardiac work and myocardial oxygen requirements at any given level of energy expenditure. A reduction in the frequency and severity of episodes of angina pectoris as well as an increased ability to perform work without pain has been reported in a number of patients.^{2, 5, 8, 9, 10}

Several types of cardiac arrhythmias are precipitated or aggravated by sympathetic stimulation. The investigation of the effect of beta adrenergic receptor blockade is of interest. In patients with atrial fibrillation, decrease in ventricular rate occurs with administration of beta receptor blocking drugs. The reduction in rate is additive to the slowing produced by digitalis.^{11, 12} This action is of therapeutic benefit in the patient whose ventricular rate is difficult to control with large doses of a digitalis preparation. A rapid improvement in arrhythmias produced by digitalis toxicity has also been reported.^{11, 13} This effect is independent of the precipitating event leading to toxicity and of the type of arrhythmia present. Of particular interest is the decrease in frequency of ectopic ventricular beats in patients subjected to anesthesia¹⁴ or to a rebreathing procedure which elevates arterial pCO₂.¹² It is not certain whether the antiarrhythmic effects of this group of compounds are due to adrenergic receptor blockade or to some other mechanism of action.

Side effects and toxic reactions are frequent with these drugs but they vary with the compound being considered. Pronethalol produces thymic tumors and lymphosarcoma in mice. Some patients may experience dizziness, nausea, diarrhea, insomnia, pares-

thesias, fatigue and dermatoses. With the newer compound, propranolol, only infrequent dizziness and nausea occur and no carcinogenic effect has been reported.

It has been documented that sympathetic drive is important in maintaining cardiac compensation in congestive heart failure.¹⁵ As one would expect, beta adrenergic blockade has been implicated in precipitating and increasing the severity of congestive heart failure in several patients receiving these compounds. This effect of beta receptor blockade is the major limitation to the clinical usefulness of these drugs. Lowering of blood pressure has been observed as a side effect¹³ and therapeutically in hypertension¹⁶ it may be related to decreased cardiac output.

In summary, blockade of the adrenergic receptors primarily concerned with myocardial stimulation is currently under investigation both in this country and abroad. Considerable knowledge concerning adrenergic effect on the circulatory system has been obtained and more will be forthcoming. Perhaps other clinically useful compounds will be developed. Further developments in this field should be watched with interest. □

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AMA CLARIFIES MEDICARE STAND

Below is a summary of the modified official policy of the American Medical Association toward the Medicare Law (P.L. 89-97) as adopted by the AMA House of Delegates on October 3rd, 1965:

I. Physician - Patient Relationship. Public Law 89-97 affects the legal, traditional, and ethical concepts of the physician-patient relationship.

Legal counsel for the American Medical Association has stated that an individual physician acting independently and not in concert with others can lawfully refuse to accept any person as a patient who is a beneficiary under the program, or he may elect to treat such persons.

In response to a request for an opinion by the Speaker, the Judicial Council, on October 1st, 1965, rendered the following opinion:

"The *Principles of Medical Ethics* are applicable to physicians when they engage in group action as well as when they act individually. Section 4 calls upon physicians to observe all laws. Accordingly, medical organizations must be mindful of the possible consequences of the actions they propose, engage in or encourage.

"Under ordinary circumstances, the individual physician acting independently, is ethically free to select his patients. (a) He may decline to render medical services to persons covered by (Medicare). (b) He may choose to treat such persons without charge. (c) He may treat patients with the advance understanding that he will look to them exclusively for payment and that he will or will not in any way help them in obtaining reimbursement for the cost of his services or the cost of associated services.

"However, under some circumstances, the physician's freedom to select his patients may be circumscribed by overriding ethical considerations. For example:

"1. A physician should respond to any request for his assistance in an emergency.

"2. Once having undertaken a case, the physician should not neglect the patient, nor should he withdraw from the case without giving notice sufficient to allow the patient to obtain another physician.

"3. If a physician decides not to participate in the Medicare program or decides to limit his participation, he should so advise the patient in advance of treatment. This applies to services rendered by the physician as well as hospital services and other benefits provided under the program.

"4. As provided in Section 1 of the *Principles of Medical Ethics*, a physician should not refuse to render medical services to any person if as a result such person will be unable to get necessary medical care.

"It should be noted also that Section 6 of the *Principles* provides that: 'A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause the deterioration of the quality of medical care.' If after regulations are promulgated and the Medicare law becomes effective, the individual physician acting independently and not in concert with others, finds it does tend to impair the free and complete exercise of his medical judgment and skill or to cause a deterioration of the quality

of medical care, the individual physician would be justified under this Principle in not participating under the law. The physician is ordinarily free to select his patients, subject to such ethical limitations as previously stated."

Mr. Speaker, your Reference Committee believes that it is desirable for this House to adopt a statement of policy regarding the traditional physician-patient relationship as it relates to Public Law 89-97. Mr. Speaker, we recommend that the following statement be adopted:

The American Medical Association opposes any program of dictation, interference, or coercion, whether direct or indirect, affecting the freedom of choice of the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97.

II. Regulations Under Public Law 89-97. It was clear from the testimony received by your Reference Committee that the medical profession has a vital interest in the regulations which are to be promulgated under Public Law 89-97. Hastily drawn, unrealistic regulations could aggravate even further the undesirable effects of this law. Mr. Speaker, we recommend the adoption of the following statement as the present position and policy of the American Medical Association:

"(a) The American Medical Association shall continue to meet with representatives of agencies and departments of the Federal Government, to participate in such advisory committees which are created, and to contribute whatever advice and suggestions are deemed advisable

and necessary in the formulation and revision of regulations which will help it achieve Medicine's objectives on behalf of the public and the profession.

"(b) The American Medical Association urges every physician, regardless of the extent of his involvement, to render whatever advice and assistance he can so that regulatory changes and/or legislative modifications may be suggested or sponsored by the American Medical Association in order that the best interests of the public and the profession may be protected in the provision of medical care.

"(c) This House of Delegates expresses confidence in the Board of Trustees of the American Medical Association and its Advisory Committee on Public Law 89-97 for their continuing efforts to secure regulations which are in the best interests of good patient care."

* * * * *

III. *Certification by Physicians.* Your Reference Committee recommends the adoption of the following statement of policy:

"Current practices and customary procedures with respect to certification for hospital admission and care shall be continued under Public Law 89-97. The AMA Advisory Committee and the Association representatives to the technical advisory committees are advised to seek to accomplish this objective."

IV. *Blue Shield as Intermediary.* Regulations yet to be promulgated will identify the nature of intermediaries under Public Law 89-97. Your Committee offers the following statement:

"Blue Shield has, in many areas, demonstrated its ability to provide a competent insurance program. However, the AMA should leave to the state or appropriate local medical society, as the case may be, the expression of any preference for selection of a carrier."

V. *Reasonable Fees.* Concern was expressed with respect to possible

disputes between physicians and carriers relative to reasonable fees under the provisions of Public Law 89-97. We recommend the following statement of policy:

"In the event of a dispute between physicians and carriers with respect to reasonable, customary, or usual fees, such dispute shall be resolved with the participation of the appropriate local medical society."

VI. *Utilization Review.* Differences of opinion as to the purpose of utilization review committees were expressed. However, there was general agreement that with respect to the composition of such committees, the limitation of membership to include only physicians is preferred. Accordingly, we recommend the following statement to the House:

"Hospital utilization review committees shall be composed of practicing physicians."

VII. *Compensation for Medical Services.* Your Reference Committee believes that the physician should be informed fully as to the merits and limitations of billing patients directly for services, or accepting an assignment to enable payment by a federally-designated fiscal intermediary, so that the physician can decide for himself in each instance the method of compensation which he prefers. We recommend that the Association take appropriate action to inform physicians regarding the options of payment for services available to them under the law and its regulations.

VIII. *Shortage of Hospital Beds.* . . . It is your Reference Committee's understanding that this subject is under active consideration by the Council on Medical Service. Your Committee accordingly recommends that this matter be referred to the Council for appropriate action.

IX. *Legal Opinion by AMA Counsel.* Your Reference Committee was greatly impressed by the candid, forthright presentation by Mr. A. Leslie Hodson, legal counsel for the American Medical Association. We believe that his remarks should be made available to all constituent associations for their information and

study. We believe that this will engender a better understanding of the legal limitations which face all medical organizations and the medical profession. Your Reference Committee recommends that the remarks of Mr. Hodson be distributed to the constituent associations.

X. *Non-Discrimination Under Federally Assisted Health Care Programs.* Witnesses testified that a number of state agencies require pledges of non-discrimination for the ostensible purpose of meeting the requirements of title VI of the Civil Rights Act . . . (A resolution was adopted opposing such pledges and advising physicians that refusal to sign did not flout the law.)

XI. *Separation of Professional Fees and Hospital Charges.* Mr. Speaker, we offer the following statement of policy for consideration by the House:

"Hospital-based medical specialists are engaged in the practice of medicine. The fees for the services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed, and collected in the same manner by the medical specialist as are the fees of other physicians."

The AMA intends to vigorously continue its efforts to prevent inclusion in the future of any professional services under the hospital service portion of any health legislation.

Mr. Speaker, the policy statements herein presented to the House for its action are intended to respond to the specific problems placed before this Reference Committee. We are certain that more definitive statements on Public Law 89-97 will be adopted by this House as regulations are promulgated and as the program is implemented. But lest we be misunderstood, your Committee wishes to clearly emphasize that none of its recommendations should be construed as approval of the Medicare Law, or in any way as acceptance of its philosophy. We further urge the AMA and all physicians to press for the repeal of this law. □

'66 Annual Meeting Plans Underway

The 1966 annual meeting of the Oklahoma State Medical Association holds promise of being the most outstanding conference of its type held in many years.

In describing the forthcoming meeting in superlative terms, Annual Meeting Committee Chairman Irwin H. Brown, M.D., Oklahoma City, explains that new convention facilities, the prospect of increased financial support, and imaginative programming should not only serve to place new emphasis on the importance of the state association meeting, but should also result in obtaining greater participation by physicians from all quarters of the state.

New Convention Center

The best news about the convention, which is scheduled for May 12th-15th, is that for the first time in recent history there is a convention facility available to the OSMA which will house the many activities

of the annual meeting under one roof.

Physicians will be able to attend scientific programs, general interest meetings, business sessions, luncheons, and social events in the convenient surroundings of Oklahoma City's Skirvin Hotel. The hotel is now constructing a new Convention Center which, when completed this Fall, will be the second largest facility of its type West of the Mississippi.

Current plans call for the use of seven meeting rooms which are contained in the convention complex, and for earmarking about 11,000 square feet of space for the exhibit area.

Scientific sessions will be held on Friday, Saturday and Sunday, May 13th through May 15th, and the House of Delegates is tentatively scheduled to meet on Friday and Saturday mornings, with reference committee meetings to be held on Friday afternoon. The Board of Trustees will meet on Thursday afternoon.

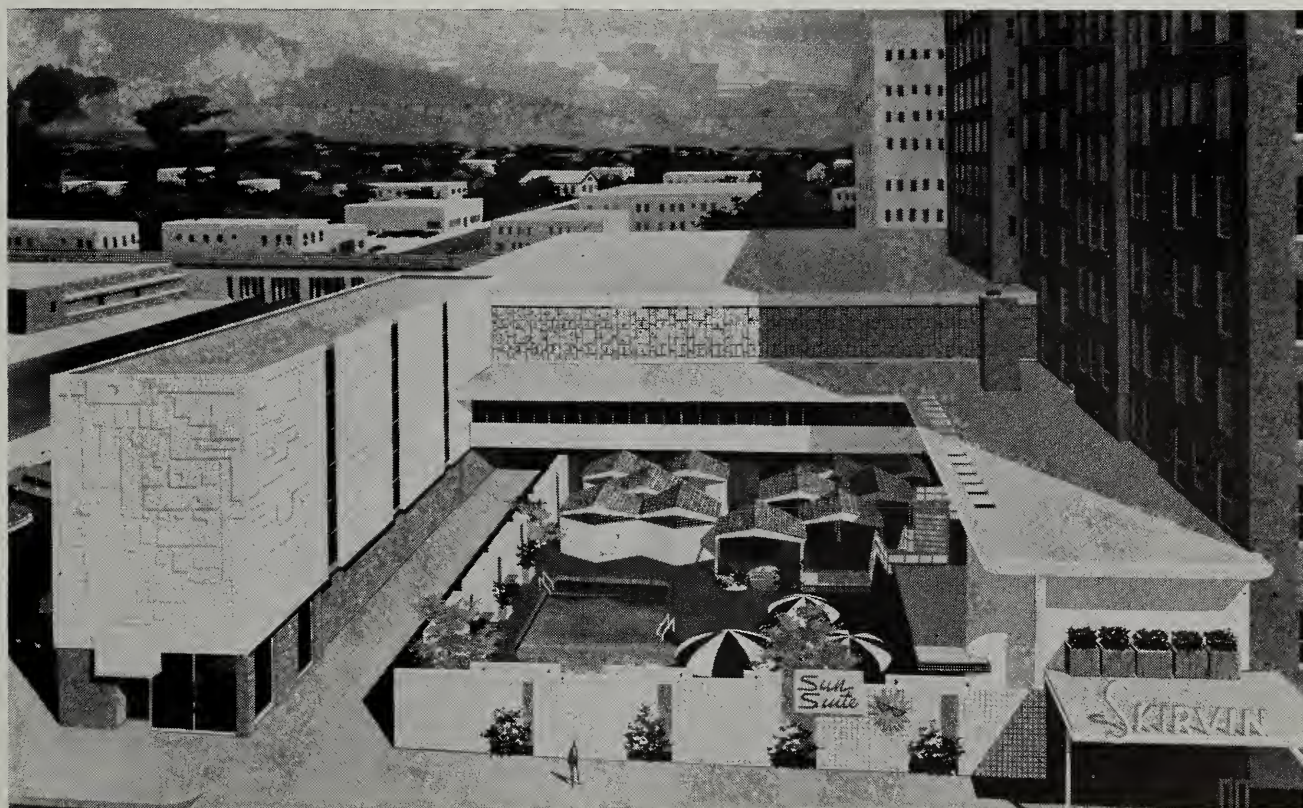
The exhibit area, which will accommodate 81 technical, consumer, scientific and institutional exhibits, will provide sufficient booth sales to give annual meeting planners the greatest potential income they have ever enjoyed.

"This added revenue," Brown said, "will be used to provide innovations in programming and social events, and to generally build a better meeting."

Tentative plans include a gourmet-type annual banquet, outdoor cocktail party, free luncheon programs, diversified scientific educational sessions, and an exhibit area that will represent a change-of-pace from the usual medical association production and which should be one of the convention highlights.

Not only will the usual technical displays from pharmaceutical and equipment manufacturers be presented, but the exhibit area will also feature booths by manufacturers and distributors of prestige goods and services.

(Continued on Page 474)



The Skirvin Hotel's new two million dollar Convention Center, with a capacity to serve banquets for 3,000 persons, is completely reserved for the 1966 Annual Meeting of the Oklahoma State Medical Association. It is conveniently located near the hotel's pool and guest club, and features ground floor parking for several hundred cars. A large block of sleeping rooms in the hotel is reserved for OSMA members attending the annual meeting next May 12th-15th.

Airplane Exhibit

The OSMA Executive Office has already arranged for the display of a Cessna Skylane airplane, a luxury power boat, Mercedes Benz and Jaguar automobiles. In addition, clothiers, sporting goods companies, vacation trailer manufacturers, travel agencies, custom Hi-Fi specialists, gunsmiths, outdoor furniture manufacturers, swimming pool dealers, and vacation home planners are expected to participate.

To date, 35 commercial exhibit spaces have been sold. In addition to exhibits of products and services, Oklahoma City's "Pei Plan" will be on display. This scale model of downtown Oklahoma City depicts the ambitious building program to rejuvenate the downtown area, including an air-conditioned mall, a "Tivoli Garden" park, major traffic arteries, new building construction and the face-lifting of older structures.

Space for at least a dozen scientific

exhibits by members of the OSMA has been budgeted, and more space is available to meet a greater demand.

The Annual Meeting Committee is now working on the specific details of the educational program, and the profession will be kept advised as the program develops. Doctor Brown says it is the overall aim of the committee "to develop the atmosphere and high-quality program which will make the OSMA annual meeting the common meeting ground of all state physicians, regardless of their special professional interests."

Serving with Doctor Brown on the OSMA Committee are: Howard A. Bennett, M.D., Tulsa, Donald L. Dycus, M.D., Norman, Robert S. Ellis, M.D., Oklahoma City, Ray V. McIntyre, M.D., Kingfisher, James W. Murphree, M.D., Ponca City, and Richard B. Price, M.D., Oklahoma City. Mrs. David I. Kraft, Oklahoma City, co-chairman of the woman's auxiliary convention, serves as an advisor to the OSMA group. □

Diabetes Week

An effort to guide unsuspecting diabetics to proper medical care will receive special attention during a nationwide Diabetes Week to be held November 14th-20th, 1965, according to the Oklahoma Diabetes Association. This is a serious consideration since it is estimated that there are 1,600,000 persons in the United States who have diabetes and do not know it.

The drive is sponsored by the American Diabetes Association which was founded by and is composed of physicians. The association works through 50 local affiliate associations and through approximately 900 Committees on Diabetes organized within state and county medical societies.

Physicians all over the United States are being asked to test each patient who visits their offices for possible diabetes during the special week. The ADA points out that this will offer hundreds of people an excellent chance of leading long and useful lives, once diabetes is under control. □

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Seminar For Medical Assistants

Medical assistants to all OSMA physicians are being urged to attend the Sixth Annual Seminar for Oklahoma Medical Assistants which will be held in the Student Union at Oklahoma State University on November 20th and 21st, 1965.

Topics to be covered during the two-day meeting will include: "Administrative Matters Involved in Providing Medical Services Under the Medicare Act"; "Current Procedures for Handling Cases Covered Under Workmen's Compensation"; "Implications of Insurance and Medical Law for the Medical Assistant"; "The Certification Examination for Medical Assistants"; "Oral Communications and Personnel Relations"; and, "Medical Ethics and Etiquette."

Miss Marge Slaymaker, Newton, Kansas, President-elect of the AAMA, will give the certification examination.

Rex E. Kenyon, M.D., President of the Oklahoma State Medical Association, will speak during the graduation luncheon.

The seminar has been planned for Saturday and Sunday so that the assistants may be able to attend without missing work. Detailed programs will be mailed to all OSMA members. □

Doctors, Wives To Sharpen Speaking Skills

OSMA's Public Relations Committee, in cooperation with Smith, Kline and French Laboratories, has announced a "Speech Training Seminar" for county medical society and auxiliary leaders on November 12th-13th at the DeVille Motor Hotel in Oklahoma City.

The practical course is to be presented by expert instructors from the pharmaceutical company's Speech Training Division, which has developed a nationwide reputation for producing high-quality speakers through intensive training programs similar to the one offered in Oklahoma.

Poor speakers taking the course

Franklin Robinson Receives Life Membership



Franklin P. Robinson, M.D., (center) is shown receiving his new membership certificate from Avery B. Wight, M.D., (right) as Paul H. Rempel, M.D., President of the Garfield-Kingfisher district medical society looks on.

Franklin P. Robinson, M.D., Pond Creek, was honored by his county medical society and the Oklahoma State Medical Association on September 22nd in Enid when he was presented with an Honorary-Life Membership in the state association.

The presentation of the membership certificate was made at the regular monthly meeting of the Garfield-Kingfisher district medical society. Avery B. Wight, M.D., Enid, a member of the OSMA Board of Trustees, made the presentation.

Last year, Doctor Robinson received a fifty-year-pin from the OSMA commemorating a half-century of medical service.

Doctor Robinson was born in 1889 and received his medical degree

from the University of Oklahoma School of Medicine in 1914.

The association's House of Delegates approved fifteen Honorary-Life memberships at its annual meeting last May. In addition to Doctor Robinson, those honored were: Henry S. Brown, M.D., Tulsa; J. Hoyle Carlock, M.D., Ardmore; Arthur H. Davis, M.D., Tulsa; J. G. Ghormley, M.D., Blackwell; P. L. Hayes, M.D., Vinita; John C. Perry, M.D., Tulsa; Ruric N. Smith, M.D., Tulsa; William O. Smith, M.D., Tulsa; O. C. Standifer, M.D., Elk City; J. P. Vansant, M.D., Dewey; Roxie A. Weber, M.D., Stillwater; M. M. Wickham, M.D., Norman; Stanley F. Wildman, M.D., Oklahoma City; and, J. F. York, M.D., Madill. □

will become good ones, and even accomplished orators will reach a point of excellence which would otherwise take years to develop. The program format features a combination of general meetings and small group rehearsal sessions. Instruction in speech organization and preparation, reading from a manuscript, extemporaneous speaking, handling questions from the floor, techniques of delivery, and the opportunity for individual performance are only a few examples of the extensive curriculum which is planned. The five S-K-F instructors will teach, coach

and provide constructive critiques of student efforts.

Sessions will run from 9:00 a.m. to 5:00 p.m. each day of the Friday and Saturday affair. On Friday evening, a social hour will be sponsored at the DeVille by the OSMA.

County medical society and auxiliary presidents have been invited to register for the seminar or to name a representative. Hotel reservations should be made directly with the DeVille, 1600 N.W. Expressway, Oklahoma City, where a block of rooms is being held for speech trainees.

DOCTOR, WHAT WILL YOU EARN?

It depends, of course, on your age and annual earnings, but the amount can quite reasonably exceed \$400,000.

The total value of all your possessions—property, savings, cars and personal belongings—is only a fraction of what you will probably earn during years of practice. And yet some of you have insured these things and left your earning power unprotected.

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All of this is made possible by the Social Security Amendments Act of 1965. (P.L. 89-97), better known as the Medicare Law.

Physicians received a double-dose of misery in the passage of Medicare. Not only did they see 19 million Americans placed under a system of socialized medicine but, in the same fell swoop, they achieved the distinction of being the only group to ever be forcibly drawn into the Old Age and Survivors Insurance program.

Polls of Oklahoma physicians in recent years, conducted by the OSMA and the late Senator Robert S. Kerr, revealed overwhelming opposition to compulsory inclusion in the Social Security scheme, and this local opposition has been generally reflected nationally. Yet the architects of the Medicare Bill insisted that physicians were not only clamoring for coverage, but added that it was unfair to the majority for one minority group of individuals to stay out of a program designed for the common good.

Principal reasons for physician opposition to Social Security protection were many and varied and valid, including the obvious fact that few physicians would retire at age 65, and if they were encouraged to do so, chaos would result in the already-critical physician-population ratio. There were general objections, too, not the least of which was the elementary conclusion that the required taxes for the nominal retirement benefits constituted a remarkably poor investment for anyone, particularly for a group which is willing and able to purchase its own private insurance protection.

Nevertheless — whether they wanted or needed it or not — physicians-in-retirement are now the public responsibility, and physicians-at-work are subject to a devastating new tax.

Retroactive through 1965, a self-employed doctor will have to cough up \$259.20 for his OASI "contribution." In 1966, the take will be \$405.90; in 1967-68, it will cost \$422.40; in 1969-72, the amount will be \$468.60; and, from 1987 and thereafter, the individual tax will be \$504.80. All of this advance scheduling is based upon the admittedly false assumption that the taxable wage base (\$6,600 yearly) will remain stable.

Health Insurance Explained By OSMA Folder

OSMA's Prepaid Medical Care Committee, with the cooperation of Blue Cross-Blue Shield, is offering all association members quantities of an excellent folder for distribution to patients through reception rooms or as statement stuffers.

The folder, entitled "Your Health Insurance and You," is a concise explanation of the principles of health insurance, basic guidelines for choosing an adequate policy, the policyholder's responsibility for conscientious use of the benefits provided, and the reasonable role to be expected from physicians in processing claims and interpretation of insurance contracts.

Physicians may order up to 100 complimentary copies each from the OSMA Executive Office, P.O. Box 18696, Oklahoma City. □

Summary of Benefits

—Retiring physicians may receive monthly benefits for themselves, at a reduced level at age 62, or at the full level at age 65. At age 72, full benefits may be received even if they do not retire.

—Disability benefits will be paid to physicians before age 65, if properly qualified by the Social Security Administration.

—A physician's wife may also re-

ceive retirement benefits at age 65 (or reduced benefits at age 62).

—In the event of a physician's death, his widow is entitled to benefits if she is 62 years old (or 60 at a reduced rate). She may receive benefits at an earlier age if she is caring for an unmarried child under 18 years of age (under 22 if attending school), or if caring for a disabled child regardless of his or her age.

—A physician's dependent parents are also entitled to survivors benefits if the deceased physician was contributing one-half of their support at the time of his death.

—An insured physician is entitled to a lump-sum death benefit ranging from \$132 to \$255.

—Beginning July 1st, 1966, a 65-year-old physician is eligible for hospital and nursing home benefits, according to the provisions of Medicare, whether he is retired or not. Also, he is eligible for the optional medical insurance plan at a cost of only \$3 a month.

To become eligible (or "insured") for retirement or survivors benefits, a physician must establish credit for a minimum number of years worked under Social Security, and the required minimum credit varies with the applicant's year of retirement.

For instance, a physician retiring at age 65 in 1966 would be required to have 3¾ years' credit under Social Security, but in 1987, the minimum requirement is nine years.

A self-employed physician receives four quarters of credit for each year in which his net earnings from self-employment are \$400 or more.

To become eligible for disability benefits, a physician needs credit for at least five years of work in the ten-year period ending when the disability occurs.

Establishing eligibility for benefits has nothing to do with computing the amount of benefits payable to the insured or his family. The benefit amount depends on average earnings under Social Security, and a rather complicated formula must be used to make the computation.

Further Information

Additional information is available from the Social Security Administra-

tion, Federal Court House Building, Oklahoma City. Leaflet No. 855 explains how to estimate benefits, and Booklet No. 23 presents a detailed explanation of retirement regulations. (The OSMA will mail a pamphlet to all members in the near future).

For information concerning the reporting of self-employed income and the payment of taxes, contact the District Director of Internal Revenue, Oklahoma, City. □

Many New Features At AMA Clinical Convention

A comprehensive scientific program, a new postgraduate course, and special clinical workshops are some of the features of the American Medical Association's 19th Clinical Convention, November 28th-December 1st, in Philadelphia.

More than 300 physicians will participate in giving the four-day program of lectures, exhibits, motion pictures, color television, fireside conferences, and breakfast roundtables.

An outstanding scientific program is designed to hold special interest for the practitioner. Some topics to be covered: Ulcerative colitis, gram-negative bacterial infections, a medical-surgical review of cardiovascular surgery, drug therapy in rheumatology, and cancer chemotherapy and preventive surgery.

The practicing physician will be able to participate in one of the convention's new features. Clinical workshops on diabetes, examination of the heart, management of common eye problems, and the solution of selected diagnostic and therapeutic problems will be conducted by outstanding teachers.

Also new will be a postgraduate course in cardiovascular therapeutics. It will be offered in addition to the popular course on gynecology and obstetrics begun at the clinical convention last year in Miami.

The annual AMA conference on the Medical Aspects of Sports will be held the first day of the meeting,

November 28th, in the Benjamin Franklin Hotel. It will be of special interest to high school and college team physicians.

There will be approximately 100 scientific exhibits, and 30 medical motion pictures.

Color television will be presented on the stage of the Civic Center in cooperation with the Hospital of the University of Pennsylvania. The subjects of six programs, to be followed by discussion, are "Lymphocytes, Cellular Immunities and Tissue Transplantation," "Renal Hypertension," "Pulmonary Resection," "Pulmonary Function Studies," "Surgical Aspects of Thyroid Diseases," and "Medical Aspects of Thyroid Diseases."

Twelve fireside conferences will be held Sunday evening, November 28th, at the Warwick Hotel. They will be joint sessions of the American College of Chest Physicians and the AMA.

W. Emory Burnett, M.D., is general chairman of the meeting. Donald A. Dupler, M.D., is chairman of the scientific program committee. □

SMA To Meet In Houston, Texas

The 59th Annual Meeting of the Southern Medical Association will be held November 1st to 4th, 1965 in Houston, Texas. The Sam Houston Coliseum will be headquarters for all scientific sessions, registration and exhibits.

A comprehensive program will include 22 scientific sections on allergy, anesthesiology, dermatology, gastroenterology, general practice, gynecology, industrial medicine and surgery, medicine, neurology and psychiatry, obstetrics, ophthalmology, orthopedic and traumatic surgery, otolaryngology, pathology, pediatrics, physical medicine and rehabilitation, plastic and reconstructive surgery, preventive medicine, proctology, radiology, surgery and urology. Prominent speakers in each of these fields have accepted invitations to speak during these section meetings.

Exhibits

Seventy-eight scientific exhibits will be presented by individuals and

groups of physicians. Over one hundred technical exhibitors will have displays for the attending physicians to visit.

Related Meetings

Several medical groups will hold conjoint meetings during SMA's program. Those listed are the American College of Chest Physicians, Southern Chapter; The College of American Pathologists; The Radiological Society of North America; and, the Southern Gynecological and Obstetrical Society. The Flying Physicians will also meet during the four-day session. Nineteen luncheons and dinners will be held to celebrate annual alumni get-togethers.

Other Features

Additional highlights of the session will be the President's Night — a dinner-dance in the Grand Ballroom of the Rice Hotel; a golf tournament at the Houston Country Club for all SMA members and guests; an outstanding four days of entertainment planned for the wives of attending doctors; and, scientific color TV.

All scientific activities, meetings and exhibits at the Houston meeting are open to physicians who are members of their local and state medical societies. There is no registration fee for the meeting. □

Trustee District Meets in Stillwater

The annual dinner meeting of physicians and wives of OSMA Trustee District II was held at the Holiday Inn in Stillwater on September 8th.

Featured speaker of the evening was OSMA President Rex E. Kenyon, M.D., who was accompanied by Mrs. Kenyon, and other guests were Doctor and Mrs. E. M. Gullatt (OSMA President-Elect), Doctor and Mrs. Richard E. Witt (OSMA Auxiliary President), Doctor and Mrs. Richard A. Clay (OSMA Auxiliary President-Elect), Don Blair and Dwight Whelan, representing the state association staff.

Presiding at the meeting was George B. Gathers, Jr., M.D., Stillwater, OSMA Trustee, who presented an Honorary-Life Membership in the

OSMA to Roxie A. Weber, M.D., Stillwater, as well as 50-Year Pins to Robert B. Gibson, M.D., and C. E. Northcutt, M.D., both of Ponca City.

Doctor Northcutt's pin was presented posthumously since he passed away on the morning of the banquet meeting. Northcutt, a former president of the Oklahoma State Medical Association (1948-1949), was a 1915 graduate of the University of Tennessee College of Medicine. He was 73-years-old at the time of his death.

Doctor Gibson, a 76-year-old practitioner, was graduated from the University of Oklahoma School of Medicine in 1915.

Doctor Weber, a graduate of Johns Hopkins University School of Medicine in 1921, was recognized by the OSMA House of Delegates last May for her contributions to the medical profession and was placed in the special membership classification of distinction.

The district meeting is held each year on a rotating basis among the principal cities of the area which encompasses Kay, Noble, Osage, Payne and Pawnee counties. □

"Resort Meeting" Success

The OSMA's first venture into combining postgraduate education with weekend recreational outings was proven successful by the registration of sixty physicians at the September 19th program held at Arrowhead Lodge on Lake Eufaula.

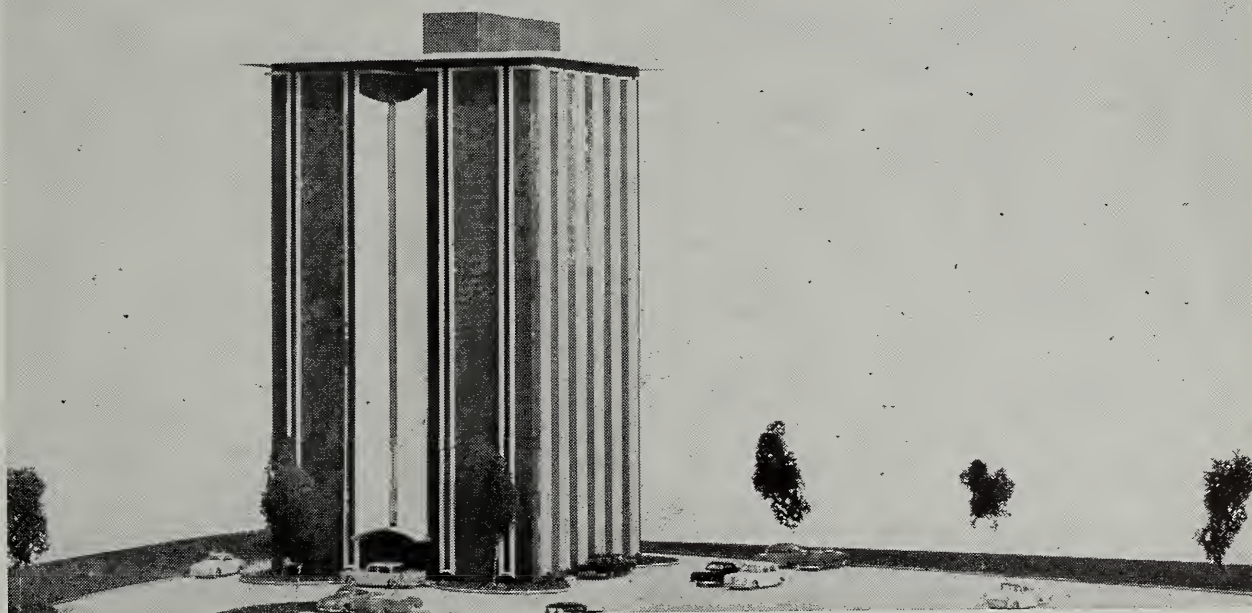
Using the theme of "Clinical Considerations in Allergy and Infections," the day-long Sunday conference featured scientific presentations on obstetrics and gynecology, surgical infection, respiratory allergy, allergic reactions, antibiotic reactions, ENT infections, blood reactions to infections, and genitourinary tract infections. Speaking were: James A. Merrill, M.D., John A. Schilling,

M.D., Lyle W. Burroughs, M.D., Robert S. Ellis, M.D., Lewis R. Beam, M.D., James B. Snow, Jr., M.D., Richard A. Marshall, M.D., and William T. Parry, M.D., all associated with the University of Oklahoma Medical Center.

Another featured speaker was Rex E. Kenyon, M.D., OSMA president, whose topic was current socio-economic developments and trends.

Many of the physicians attending the Arrowhead meeting brought their families to enjoy the scenery and recreational facilities of the state's newest resort area. Despite its Eastern Oklahoma location, physicians registered from such cities as Enid, Chickasha, Ada, Ponca City, Waurika, and Oklahoma City.

A similar conference is planned by the OSMA Council on Professional Education, headed by S. N. Stone, M.D., Oklahoma City, for the new Fountainhead Lodge next June. How-



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ever, it is tentatively planned that the next weekend postgraduate conference will feature scientific programming for two or three consecutive mornings, leaving the afternoons free for family recreation and sponsored social events.

Other OSMA postgraduate activities include six regional evening meetings (January-April) and a series of educational television programs, beginning in January. The Postgraduate Office at the OU Medical Center co-sponsors all OSMA courses. □

Arthritis Symposium In October

The Independence Suite of the Sheraton-Oklahoma Hotel in Oklahoma City will be the site of the Annual Meeting of the Oklahoma Rheumatism Society, October 24th, 1965. The meeting has been planned for the day preceding the Oklahoma City Clinical Society Conference so that physicians may plan to attend both meetings.

Topics to be discussed during the Sunday session will be: "Osteoarthritis of the Thoracic Spine"—John A. Blaschke, M.D., Oklahoma City; "Complications of Rheumatoid Arthritis"—Charles H. Slocumb, M.D., Mayo Clinic, Rochester; "Familial Aspects of Gout, Diabetes and Atherosclerosis"—W. K. Ishmael, M.D., Oklahoma City; "Temporomandibular Arthritis and Facial Pain"—Don Ishmael, D.D.S., Oklahoma City; "Pulmonary Manifestations of Collagen Disease"—Paul April, M.D., Tulsa; "Clinical Observations in the Use of DMSO"—Arthur L. Scherbel, Cleveland Clinic, Cleveland, Ohio; and, a symposium on "Office Management of Rheumatic Diseases" by R. W. Payne, M.D., Oklahoma City, and Doctors Slocumb, Scherbel, April and W. K. Ishmael.

The meeting is being sponsored by the Oklahoma Rheumatism Society, the Arthritis Foundation, the Office of Postgraduate Education of the University of Oklahoma Medical Center; the Chronic Disease Section of

the State Health Department and Geigy Pharmaceutical Company and Wyeth Laboratories. Six hours credit, category I, has been approved by the American Academy of General Practice. □

OSMA Sponsors Student AMA Banquet

University of Oklahoma medical students, wives, and dates were hosted by the Oklahoma State Medical Association's Board of Trustees at the traditional annual banquet held October 15th in the Huckins Hotel, Oklahoma City.

The event, which inaugurated the year's activities of the OU Chapter of the Student American Medical Association, featured addresses by Hoyt D. Gardner, M.D., Louisville Kentuckian who represents the AMA Speakers Bureau, and Fenton M. Sanger, Oklahoma City, President of the student group.

Doctor Gardner's talk, labeled as "How To Make A Mint Julep," was actually a humorously analogous presentation comparing the finesse and tradition of mint julep making to the same qualities which are necessary to nurture and defend the practice of medicine in a free and competitive society.

He spoke of the current and projected problems confronting the medical profession in a dynamic period of changing social order, the important role of organizational medicine in the profession's future, the value of good citizenship in cultural, civic and political affairs, and of the effect that medical student attitudes of today will have on the practice of medicine tomorrow.

Mr. Sanger expressed appreciation to the OSMA for sponsorship of the annual banquet and for its continued support of the student organization.

Medical association representatives at the banquet included OSMA officers, members of the Board of Trustees, physicians participating in the medical school's preceptor program, medical school faculty members and physician advisors to the Student AMA chapter. □

DEATHS

C. E. NORTHCUTT, M.D.

1892-1965

A Past-President of the Oklahoma State Medical Association, C. E. Northcutt, M.D., died in Muskogee, September 8th, 1965. The veteran Ponca City physician was born in Euin, Alabama in 1892 and moved to Oklahoma in 1896. He graduated from the University of Tennessee School of Medicine in 1915.

Following one year of practice in Lexington, Oklahoma, Doctor Northcutt joined the Medical Corps of the British Army during World War I. Upon his discharge, he established his practice in Ponca City.

Doctor Northcutt served as OSMA President in 1948-49. In addition, he was Past-President of the National Conference of State Presidents of Medical Associations. He had served on the Board of Medical Examiners for the State of Oklahoma and was a member of the American College of Surgeons.

In 1933, Doctor Northcutt was voted Ponca City's Most Useful Citizen and was elected the city's mayor in 1935. His activities included serving as president of two of Ponca City's civic organizations.

RALPH C. MELOY, M.D.

1878-1965

A pioneer Claremore physician, Ralph C. Meloy, M.D., died in Claremore September 13th, 1965. The 86-year-old Wisconsin native had been retired since 1960.

A 1910 graduate of the St. Louis College of Physicians and Surgeons, Doctor Meloy established his first practice in Mustang, Oklahoma. He had also practiced in Oklahoma City and Edmond before going to Claremore in 1918.

Doctor Meloy was active in civic as well as medical circles, having served as a District Governor of the Rotary International civic organization. □

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James P. Vansant Honored



Keiffer D. Davis, M.D., Bartlesville, President of the Washington-Nowata County Medical Society, is shown presenting James P. Vansant, M.D., Dewey physician, with an Honorary-Life Membership certificate. Ceremonies were held at the regular meeting of the society on September 8th, 1965 at the Hillcrest Country Club in Bartlesville. Elvin M. Amen, M.D., Bartlesville, Secretary-Treasurer of the society, is pictured on the right.

BOOK REVIEWS

FRACTURE PROBLEMS. By William Hamilton Harris, M.D.; William Norman Jones, M.D.; Otto E. Aufranc, M.D.; Department of Orthopedics, Massachusetts General Hospital, Boston, Massachusetts. First edition, cloth, 371 pp., with 199 illustrations. Saint Louis: The C. V. Mosby Company, 1965. \$20.00.

This book is composed of cases taken from Fracture Grand Rounds at Massachusetts General Hospital. Acute fractures of the foot and ankle, leg, knee, femur, hip, acetabulum, spine and upper limb are covered with a final chapter on pathological fractures. Each case is presented in conference type discussion, making the book interesting, easy to read and comprehend.

Detailed treatment is given for specific fractures under discussion from the time they enter the Emergency Room until a final follow-up is

given, many times several years after the injury.

It is an excellent book for those who treat common and unusual fracture problems.—*J. Charles Monnet, M.D.*

CARDIOMYOPATHIES, by Ciba Foundation Symposium. Edited by: G. E. W. Wolstenholme, O. B. E., M.B., F.R.C.P. and Maeve O'Connor, B.A.

This volume, as in others of this excellent group, covers a subject of current interest using a multidisciplinary approach. Virtually all aspects of the problem are presented formally, then followed by a free discussion which brings out other viewpoints.

The initial portion of the symposium covers the subject of hypertrophic aortic and pulmonary stenosis thoroughly from the clinical, surgical, pathologic, theoretic hemodynamic,

physiologic and pharmacologic approaches. It is interesting to note the free communications between the clinical and basic sciences. The subject is of considerable interest to the clinician in the field of cardiology and is well presented. There are occasional mistakes in figures (figure 2 page 42 and figure 6 page 59).

The latter portion of the book covers other forms of cardiomyopathies though in somewhat less detail. The entities covered are, in numbers, an important group and specifically include endomyocardial fibrosis, endocardial fibroelastosis, and the viral myocarditis.

In summary this is a valuable reference book for the clinician, particularly those interested in cardiac disease. The multidisciplinary approach is used and the usefulness of this is obvious. The listed references are also of value.

CELLULAR BIOLOGY OF MYXOVIRUS INFECTIONS. Ciba Foundation Symposium. G. E. W. Wolstenholme and J. Knight, Editors. First Edition, cloth, 368 pp., with 85 illustrations. Boston: Little, Brown and Company, 1964. \$12.00.

Inasmuch as myxoviruses have been examined in greater depth than other groups of viruses, it is only natural that this symposium was an outgrowth of the 1956 Ciba Conference on "The Nature of Viruses." Although this monograph is not a comprehensive treatise on the subject, it is an impressive collection of thirteen papers presented at an International Symposium convened at London in February, 1964. Some of the newer techniques utilized in virology are emphasized, including negative contrast methods in electron microscopy, the use of antimetabolites and immunochemical methods. Particularly enlightening are the informal discussions following each section and the general discussion on structure and classification of myxoviruses.

This monograph will appeal especially to virologists, researchers and those desiring a rapid survey of the expanding field of virology.—*L. A. Chitwood, Ph.D.*

FROM AUSCULTATION TO PHONOCARDIOGRAPHY. By Aldo A. Luisada, Professor of Medicine and Cardiovascular Research, the Chicago Medical School, Chicago, Illinois. First edition, cloth, 314 pp. with 196 illustrations. Saint Louis: The C. V. Mosby Company, 1965. \$17.75.

Doctor Luisada in this new addition to his contributions to cardiovascular literature relates in a most comprehensive manner what is heard at the bedside to the physiology of heart sounds. In the beginning chapters the causes of normal heart sounds are reviewed in the light of recent advances in intracardiac phonocardiography. This information is well worth reviewing by all interested in auscultation for the purposes of clinical application and teaching. The accompanying illustrations are very helpful and complement the text well. The section devoted to the physics of sound and technical application of phonocardiography will be of interest to those planning to add a phonocardiography laboratory to their armamentarium of diagnostic equipment.

The final section of the book discusses abnormal heart sounds in the same clear concise fashion as normal heart sounds are handled. All in all, in a readable and interesting style this book contains much information with which all clinicians and educators should be familiar. Not only are heart sounds described verbally and visually, but their origin and significance are clarified, sharpening one's ability to correlate heart noises with function.—*William L. Hughes, M.D.*

ANATOMY AND SURGICAL TECHNIQUE OF GROIN DISSECTION.

By John S. Spratt Jr., M.D., Associate Professor in Surgery, Washington University, William Shieber, M.D., Instructor in Surgery, Washington University, and Burl Mayes Dillard, M.D., Instructor in Surgery, Washington University, St. Louis, Mo., First Edition. Cloth, 97 pp. with 36 illustrations. St. Louis: The C. V. Mosby Co., 1965. \$9.75.

This book emanates from the surgical division of the Ellis Fischel State Cancer Hospital of Columbia, Missouri and is based on their experience with 210 groin dissections accrued from 1940 to 1963. It is divided into three chapters dealing with the anatomy of the ilioinguinal region, the surgical technique of groin dissection and the indications for groin dissection. The anatomy of the ilioinguinal region is clear, concise and well illustrated. The anatomy and physiology of the lymphatic system are particularly thorough and lymphangiographic studies are shown to supplement the detailed text. In the chapter on surgical technique of groin dissection all aspects of pre-operative preparation, post-operative care and management of complications are included as well as the surgical technique. Of particular interest is the routine use of lymphography prior to the procedure. This study allows complete visualization

of the regional lymphatics and also reveals the adequacy of the node dissection prior to closure. The authors strongly advocate the use of the oblique incision over the vertical or S-shaped incisions based on their experience of delayed wound healing with the latter two. The surgical technique is presented along with clear illustrations. The chapter on indications for groin dissection is well documented with statistics. Each of the tumors which commonly metastasize to the groin are presented along with their behavioral characteristics. Signs of inoperability as well as indications for surgery are presented. The efficacy of the procedure for various tumors is presented graphically and documented statistically. The book is complete in all respects and clarifies a procedure which is frequently misunderstood by physicians.—*David Snyder, M.D.* □

Miscellaneous Advertisements

FOR SALE: Complete, active practice and office equipment. Safe, filing cabinets, typewriter, electric adding machine, refrigerator, microscope, sterilizers; attractive reception room-furnishings, draperies, mirrors, paneled walls, etc. Excellent location. Near four hospitals. Reason: Retirement. Contact Key T, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

PARTNER WANTED: GP or surgeon to join three doctors. We own our clinic building and equipment located only three blocks from modern hospital operated by the Felician Sisters. Excellent salary first year with full partnership at the end of one year to compatible, competent M.D. Contact the Neumann-Ottis Clinic, Okarche, Oklahoma.

PROGRESSIVE city of 5,100 desires general practitioner. 25-bed hospital; office space for rent in The Perry Clinic. Excellent opportunity, good income area. Contact A. M. Brown, M.D., Perry Clinic, Perry, Oklahoma.

FOR SALE—Standard 100 Milliampere X-ray. Stationary Anode Tube, with fluoroscopic screen. Excellent condition, older model x-ray. Price, \$1000.00, includes stainless steel developing tank and other accessories. Terms can be arranged. Contact John R. Adair, M.D., 101 Bowman Building, Ardmore, Oklahoma.

WANTED: General practitioner or internist to associate with Medical Arts Group. No investment. Excellent income guaranteed. Contact E. D. Greenberger, M.D., Medical Arts Building, McAlester, Oklahoma.

Miscellaneous Advertisements

ANESTHESIOLOGIST: Department Chief—exceptional opportunity in 160-bed general hospital; materials and equipment furnished. Contact Norman Municipal Hospital, Richard C. Luttrell, Administrator, or Wm. R. Patten, M.D., President, Medical Staff.

EXCELLENT OPPORTUNITY for young man wishing to start in general practice or for an established man wishing to relocate. Choice location in Oklahoma City suburb only minutes from two hospitals. Beautiful new building with two established physicians. A new man would have a very good practice at the end of the first year. For further information please contact Key C, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

SEVEN-YEAR-OLD 200 Milliamp GE Maxicon X-ray. Two tubes, rotating anode, table tilt in both directions, vertical tube stand and all accessories. Sell, lease or trade. Frank M. James, M.D., 2115 E. Robinson, Route 4, Norman, Oklahoma 73069.

GRADUATE of Arkansas School of Medicine desires locum tenens for the next six months. Leaving general practice to take residency; military service completed; 36-years-old. Contact Vernon H. Carter, Jr., M.D., Medical Arts Building, New Smyrna Beach, Florida.

FOR IMMEDIATE SALE, deceased physician's practice, office building and equipment, including surgical instruments, located at Perry, Oklahoma, population 5,000, trading area, 10,000. May consider long term lease. Write to Mary Louise Simon, Administratrix, 1218 East Rainbow Drive, Perry, Oklahoma.

WANTED: Physician, under 35, to assist, then share busy general practice with young G.P. in Long Island area of metropolitan New York. Must have or be eligible for New York license, be able to do uncomplicated OB, and assist at surgery. Salary first year, then increasing percentage to full partnership. Contact Ralph E. Schlossman, M.D., 130-56 Lefferts Boulevard, South Ozone Park 20, L.I., New York.

WANTED: Internist, Pathologist and Physiatrist—board certified or eligible; full time, beginning salary range from \$12,075 to \$18,740 depending on qualifications; many fringe benefits including annual and sick leave, insurance and retirement plans; 390-bed medical and surgical hospital, located in a superlative outdoor recreation area. Contact, Chief of Staff, VA Hospital, Honor Heights Drive, Muskogee, Oklahoma.

WANTED: Internist, board eligible or certified to be associated with twelve-man specialty group, salary open, no investment, early partnership, city of 35,000. Write J. D. Wilson, M.D., King's Daughters Clinic, Temple, Texas.

MEDICAL SUITES available, Lister Building, 430 N.W. 12th, Oklahoma City, Oklahoma. One 915 square feet, one 918 square feet. All services included. Contact or write Mr. Plater.

FOR SALE: Deceased physician's practice and equipment, including business office equipment and two examining rooms, plus laboratory equipment. The suite of rooms is on a rental basis in the Oklahoma National Bank Building in Chickasha, Oklahoma. Chickasha is a growing community of 16,000 population and is the home of Oklahoma College of Liberal Arts. Write to Robert B. Park, Federal Building, Chickasha, Oklahoma or to Neysa A. Davis, executrix, 1802 South 15th Street, Chickasha, Oklahoma.

OPENINGS for General Practitioner and EENT man who must do refractions. Three-man clinic and 70-bed hospital. Town of 7,000 with expanding industry and drawing area of 12,000. Excellent opportunities for the right man. Five-day week in clinic office; hospital call covered every fifth week. Good cultural, educational and recreation facilities. Contact Key A, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

CENTRAL STATE Griffin Memorial Hospital has positions available for general physicians with beginning salaries of \$14,000; the hospital is also seeking applicants for its training program in psychiatry. Resident physicians with Oklahoma license and four years general practice earn \$12,000 annually. Without general practice, \$10,000 first year, \$11,000 second and \$12,000 third year. Many fringe benefits such as paid vacations, sick leave, social security, retirement and rotated night and weekend call. Write Hayden H. Donahue, M.D., Superintendent, Central State Hospital, Box 151, Norman, Oklahoma.

WANTED: General practitioner for Spiro, Oklahoma. Three-year-old community clinic rent free for six months. This includes reception room furniture, x-ray and examining tables. First year income should be between \$20,000 to \$25,000. Contact O. R. Sampson, Spiro Chamber of Commerce, Spiro, Oklahoma.

OPENING for top general practitioner to join our active group of general practitioners in a progressive community in southern Oklahoma with a population of 25,000 plus. This group owns a new hospital facility of 70 beds. This group practices as a group for coverage purposes, etc., but each physician is financially independent of the others as far as his office and practice are concerned. Contact Key Q, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

Patients Are People

MODERN PHYSICIANS are in grave danger of losing the personal element in medical practice. This priceless feature of the healing arts, the warmth and understanding that has been the foundation of good doctor-patient relations for so long, is not being taken away by force, instead it is being eroded by neglect to the extent that eventually it may disappear altogether.

Older people realize that the medical atmosphere has changed and very often they apologize for their doctors by saying nostalgically, "They're so overworked these days." The truth is, of course, that modern practitioners do not work any harder than their predecessors did but as the emphasis on the mechanics of medicine increases the human being himself seems to get proportionately less attention. Ministers, lawyers and legislators are being pressed into service to compensate for the deficits in medical humanitarianism.

The younger generation is becoming accustomed to computer-like management. Usually they expect their doctor to confirm his physical findings by laboratory data but they are no longer surprised if they are not even touched or scarcely spoken to by their doctor while the diagnosis is being made in the laboratory. It is little wonder that a sick man soon forgets the name of his doctor and has no more feeling for him than he does for the airline pilot who ferries him safely across the continent.

An essential aspect of preserving good medical public relations lies in maintaining good doctor-patient relations and this responsibility cannot be delegated to other men or any machine. Central efforts to improve the public image of the medical profession on a national scale are of little use because they are too far away from the sick man and his family who are the ultimate source of opinion. The quality of doctor-patient relations is the result of every individual doctor's contact with each of his patients.

The scientific aids to diagnosis and treatment are important and should not be downgraded but they must be balanced with the

intangible, subjective human requirements. To reduce mankind's diseases and associated suffering to a minimum requires everything a doctor has at his command. His five senses, his sixth sense and all his common sense as well as the laboratory and sundry paramedical personnel may be inadequate until they are catalyzed by sympathy, consideration and honest, expressed appreciation of one man for another. If science should ever learn all the secrets of cellular function and physiologic interactions there will remain an undefined but vital spirit in every living person which needs attention especially when illness occurs.

If a law were passed to make a nameless "case" out of every medical problem, to restrict doctors solely to desk work where they could do nothing but interpret the results of countless tests, to eliminate all possibility of personal contact with their patients, doctors would be horror stricken. The relatively primitive state of medical science would be painfully obvious and the hopelessness of really adequate care would become apparent. It would be called a catastrophe, an incalculable loss for medicine and mankind.

And yet, without legislation or publicity, simply by preoccupation with only a part of the miraculous human being, doctors may relinquish a part of the profession that can never be replaced.—C. B. Dawson, M.D. □

Medical Manuscript Editing Service

FOR MORE than ten years, the American Medical Writers' Association has provided a Medical Manuscript Editing Service. This Service has been rendered by a Life Member of the A.M.W.A., Leslie L. Lewis, Editorial Director of a Mid-West publishing company. Headquarters of the Service are at the Ravenswood Hospital in Chicago. The Medical Manuscript Editing Service is available to both members and non-members of the association. The charge to members is

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The Service is intended for medical writers who would like to have assistance when confronted by the perplexities of writing problems. The principal aim of the Editor of the Service is to help authors say what they want to say and to say it with precision, economy, and grace. On the manuscript itself, the Editor corrects punctuation; capitalization; spelling; misused words, including medical terms; and arrangement of bibliography. In addition, the Editor offers a line-by-line criticism of the manuscript covering such points as title, organization, tables and illustrations, sub-heads and summary, as well as grammar, syntax and usage. Many users of the Service are regular contributors to the medical literature and evidence indicates that all who use the Service have been satisfied with the work it does for them.

Manuscripts must be sent by first class mail, typewritten, in English, double or triple space, with wide margins at top, bottom, and both sides, written on one side only, and accompanied by return first class postage. It is preferred that manuscripts be mailed flat; the number of words in the manuscript must be stated in the upper right hand corner of the first page; and the fee for the Service, including return postage enclosed. The author should be sure to retain a copy of his paper. All manuscripts should be sent to the American Medical Writers' Association, Medical Manuscript Editing Service, Ravenswood Hospital, Chicago, Illinois 60640. □

New Handbook Explains Government Benefits

*Reprinted, by permission, from The
Richmond News Leader, Richmond, Vir-
ginia.*

WITH THE welfare state busting out all over, it's getting so that those trapped in the vicious circle of poverty hardly know where to line up. Fortunately some enterprising

capitalists have found a way to make a buck out of socialism. They've brought out a weighty tome entitled *Encyclopedia of U.S. Government Benefits*. With over 1,000 pages and 10,000 benefits, it contains a wealth of reading material for the poverty-stricken.

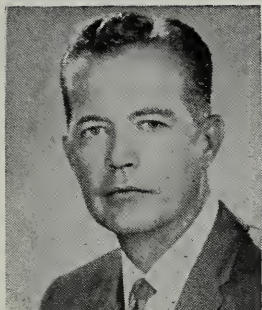
Advertised in the poor man's newspaper, the *New York Times*, the encyclopedia makes no bones about its appeal: "Your child's education, your business expansion, your vacation home—you name it . . . Learn how your government can help you finance it (and maybe pay for it entirely)!" El Dorado, recently renamed Washington, will provide education money, "which sometimes requires only 50 per cent repayment."

You can plant trees on your property, "at no expense to you." You can get fast action when disaster strikes your home, you can have hot meals delivered daily to an elderly relative, you can learn quickly, easily, accurately how to travel at home or abroad at government expense—if only you know which government door to go knocking on.

Yes, indeed, ladies and gentlemen—and this is the heart-rending part—thousands of Americans are missing valuable government services simply because they do not know about them! These are tax dollars earmarked for your particular needs that you never dreamed existed—from infant care to retirement programs. And if you didn't have any particular needs, no doubt this book tells you which government agency will help you think up the needs you need to get the money.

The only sore spot in the glowing sales pitch of this veritable "Cornucopia of Government Goodies" is that the book costs ten bucks—an outrageous exploitation by private enterprise. After all, it is Congress that has created all these benefits out of thin air, and Congress should get the credit. This new book should be printed as a joint House-Senate official document and distributed free, preferably just before election time.

The late President Kennedy begged Americans to "ask not what your country can do for you, but ask what you can do for your country." This book is a little more realistic. Every citizen's duty is to get what's up for grabs. Each man must do his part to reduce the government's mounting surplus of benefits. □



November brings us two important events: An annual reminder to give thanks for the countless blessings we enjoy, and a biennial opportunity to exercise our rights as free men by casting our votes on Election Day.

This year, as always, we should offer our thanks with an infinite depth of sincerity. For, as physicians involved in a labor of love, practicing in a beautiful and bountiful land, we are certainly among the most richly blessed of all the peoples of the earth!

This year, on the other hand, we are not faced with the problems and decisions of a National Election; but I would submit that the *thinking* citizen is never completely free of his responsibilities in this area . . . even in an *off-election year*! Elections are not won by last minute activity or by eleventh hour contributions! The radiance of Indian Summer should, therefore, serve us with this reminder: Start to work NOW; so that we may vote next November with greater assurance of victory.

To physicians who believe in the freedom of medicine, the 89th Congress dealt a devastating blow, from which we will never completely recover! To citizens who believe in individual responsibility, personal initiative, and who fear the inevitable results of expanding welfarism and broadening government controls, the 89th Congress offered no cause for rejoicing. Facing realism with complete honesty, it must be admitted that we lost practically every major legislative battle in which we chose to become involved. And, we lost for just one very significant reason: Our representatives were, for the most part, chosen by organized forces whose philosophy is more than slightly contradi-posed to our own; and those groups were able to engender sufficient working and financial support to elect men who would be sympathetic with their cause!

We had the same opportunity . . . we defaulted! If our utter failure in the 89th Congress does not stand as

a monument to our own apathy, then *nothing* can ever serve to memorialize it! But, Ladies and Gentlemen of Medicine, monuments and memorials are usually reserved for that which is past; so let us hope that apathy has been properly interred. In its place, let there be interest, concern, enthusiasm, support, unity, activity!

To those who would ask, "What can I do?", I would reply: You can begin by supporting OMPAC . . . with your money, your time and your effort! Your individual contribution to the candidate of your choice, in terms of either money or might, usually cannot be large enough to gain appreciable recognition. Our *unified* support, our combined financial contributions, our united influence can, on the other hand, produce a quite dramatic effect both on the candidate and on the outcome of the Election!

Little drops of water, as the old nursery rhyme goes, combine to make the mighty ocean!

To the leaders of OMPAC, I would offer this unsolicited advice. Make the Primary . . . not the General Election . . . your battleground; for, with some notable exceptions, the Primary is still the major race in strongly Democratic Oklahoma! Disregard Party affiliation and emphasize philosophy; for contrary to some accepted, but erroneous thinking, all Republicans are not Conservative, and all Democrats are not Liberal! In fact, more and more I find myself to be a man without a Party! Start looking NOW for *good* men who can be attracted to run *good* races toward the goal of *good* government! Do your homework and choose men who have a reasonable chance of winning. Do it today, and I suspect that when you have assembled a slate of philosophically acceptable candidates with a realistic potential of victory, you will get the support you need from your professional colleagues. Everybody likes to be on a winning team!

And so, Fellow Physicians, this year when you offer your prayer of Thanksgiving, include a special note of gratitude for the priceless blessing of liberty . . . and leave the sanctuary willing to offer a little *sweat* to preserve it! □

Rex Kenyon

Trichobezoar

FRANCIS A. DAVIS, M.D.

*An unusual hair ball in the
stomach of a teenage girl.*

BEZOARS are of two types: trichobezoar and phytobezoar. Trichobezoars are hair balls caused by eating hair while phytobezoars are accumulations of fibrous or mucilaginous materials of food. A recent case of a large trichobezoar is considered worthy of reporting.

HISTORY

A 16-year-old white female came to the office complaining of acute abdominal pain which had been present for two hours. No nausea or vomiting was present. On examination the abdomen was rather firm throughout and slightly distended. There was no localized abdominal tenderness. The rectum was full of fecal material.

She was hospitalized and after receiving an enema the pain disappeared. There was still a mass in the upper right two-thirds of the abdomen. No tenderness was associated

with the mass. A complete blood count and urinalysis were normal.

PAST HISTORY

She gave the history of eating her own hair for several years. The only thing she complained of was that for the last two or three years when she belched no one could tolerate the odor.

ROENTGENOGRAM

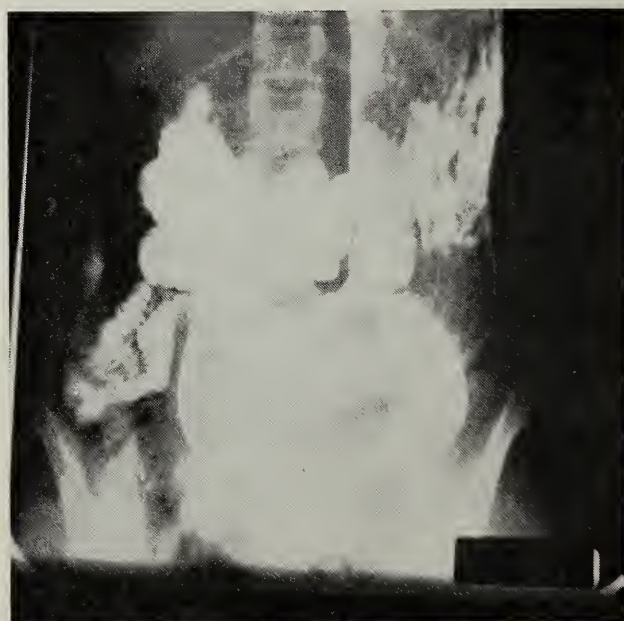


Figure 1



Figure 2

Roentgenogram of the abdomen revealed a mottled area in the left hemiabdomen essentially localized to a large, somewhat ptotic stomach. This was associated with apparent air streaking through the mottling and along the edges of the stomach wall. There was no hepatomegaly and no splenomegaly. The bowel was displaced to the right without significant dilation. The psoas shadows and peritoneal fat lines were delineated bilaterally. No bone abnormalities were identified.

Introduction of barium into the abdomen revealed that the mottled shadow was reniform in appearance and intraluminal in relation to the stomach in that the barium encircled the entire mass. Barium readily passed through the pylorus into the duodenum and proximal jejunum. Extrinsic pressure on the post-bulbar duodenum appeared to be due to contiguous anatomical structures. No abnormality of the small bowel was identified.

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Figure 3

Impression: Large intraluminal filling defect. Of prime consideration is that this is a phytobezoar, the exact etiology of which is not evident on questioning the patient.

SURGERY REPORT

A gastrotomy was done through an upper left rectus incision. The trichobezoar was found in two separate pieces which were removed intact. No other findings were present at surgery. Her post-operative surgical course was uneventful.

PATHOLOGY REPORT

The specimen consisted of two trichobezoars, measuring 32 x 8 and 26 x 8 cm. These were formed entirely of black hair. No cellular material was identified.

SUMMARY

An unusual case of a large trichobezoar with the patient's only complaint being one attack of pain, constipation and a foul smelling breath is presented. □

Medical Arts Center, Shawnee, Oklahoma

Hemorrhage as A Cause of Maternal Mortality in Oklahoma

WARREN M. CROSBY, M.D.

Obstetrical hemorrhage accounts for nearly one-third of the maternal deaths in Oklahoma. Prevention is possible and necessary and is a community as well as a medical problem.

PERIODIC REVIEW of the causes of maternal death has always revealed areas for improvement in obstetrical care. This report is no exception. It is interesting to note however that these areas change with the passage of time. In 1944 and 1945,¹ Oklahoma maternal mortality statistics showed that infection was the leading cause of death, accounting for over one-third of the deaths reported during that period. By 1950, toxemia had replaced infection.¹ However, hemorrhage has continued to be a contender and has not shown the same rate of decline as have the other two leading causes of maternal death. The purpose of this article is to point out that hemorrhage is now the leading cause of maternal mortality in Oklahoma and that the major hazard facing the preg-

nant woman in the State today is a lack of adequate facilities for blood replacement.

FINDINGS OF THE COMMITTEE

The data presented here are gathered from the files of the Oklahoma State Maternal Mortality Committee. One hundred six consecutive cases are reviewed which represent each of the maternal deaths reviewed by the Committee between the period from January 1, 1957 through December 30, 1961. Each case reviewed by the Committee was discussed and an attempt was made to ascertain the actual cause of death, to assign it to an obstetrical or non-obstetrical cause, to decide if it were preventable or not and, if preventable, to assign responsibility. Table I reviews the live births and maternal deaths in Oklahoma during the study period.

TABLE I
TOTAL LIVE BIRTHS AND MATERNAL DEATHS IN
OKLAHOMA 1957-61

Year	Live Births	#Maternal Deaths	Reviewed by Committee	Official Rate/10,000
1957	50,946	25	29	4.9
1958	50,010	18	24	3.6
1959	50,427	21	19	4.2
1960	50,216	18	15	3.6
1961	50,092	21	19	4.2
	251,691	103	106	4.1

If pregnancy or one of its associated complications is selected as the underlying cause of death from entries on the medical certifi-

From the Department of Gynecology and Obstetrics, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma.
Prepared at the request of the Maternal and Mortality Study Committee of the Oklahoma State Medical Association.

cation, the death is classified as a "maternal death" and the number of these deaths is used to calculate the rate per 10,000 live births. For Committee study, however, all deaths among pregnant or puerperal women who have been delivered within 90 days prior to the death are selected, whether death is due to "maternal causes" or not. Death certificates for women between ages 15 and 45 are matched with fetal death and live birth certificates for a 90-day period prior to the date of death to find other deaths that might have been related to pregnancy. Questionnaires are sent to the attendant, consultant or other physicians involved for each case; but, the Committee only reviews the cases for which questionnaires are returned. Thus, the number of cases reviewed in any one year may be greater or smaller than the official State statistics for maternal death.

TABLE II CAUSES OF MATERNAL DEATHS IN OKLAHOMA 1957-61		
Total deaths reviewed by Committee		106
Obstetrical deaths	83	
Hemorrhage	32	
Postpartum		13
Ectopic Pregnancy		6
Ruptured Uterus		5
Other		8
Toxemia	13	
Infection	10	
Anesthesia	6	
Heart Disease	3	
Amniotic Fluid Embolism	3	
Other	9	
Unknown Cause	7	
Non-Obstetrical Deaths	16	
Not Assessed	7	

TABLE III MATERNAL DEATHS IN OKLAHOMA 1957-61 PREVENTABILITY AND RESPONSIBILITY AS ASSESSED BY THE COMMITTEE		
Total Reviewed		106
Preventable	55	
M.D. Responsible		32(60%)
Patient Responsible		16(30%)
Responsibility Not Assesed		7(10%)
Non-Preventable	34	
Preventability Not Assessed	17	

Although not specifically listed in Table III, the Committee found that 85 per cent of the hemorrhagic deaths were preventable; and, in ten cases (one-third of the deaths due to hemorrhage), there was evidence that lack of adequate blood replacement facilities played a major role in the death. These ten cases are reviewed briefly:

Case No. 1
A 43-year-old Indian gravida 8, para 7 had received adequate prenatal care. Vaginal bleeding began in the 23rd week of gestation and two days later there was evidence of "internal bleeding." Shock ensued but type A positive blood was not available from the blood bank. The reporting physician stated that he also did not have permission to operate. Intravenous vasopressors and plasma were given. She died without receiving blood or surgery. An autopsy revealed a ruptured uterus with placenta accreta.

Case No. 2
A 27-year-old white multigravida with adequate prenatal care was under treatment for chronic nephritis with antibiotics. Labor occurred at term and was normal. Delivery of a normal infant under saddle-block anesthesia was without incident. "Some lacerations were repaired." The patient died of postpartum hemorrhage four hours later, after treatment including vasopressors, calcium and oxytocin but no blood.

Case No. 3
A 19-year-old Negro primigravida in the 13th week of gestation apparently had seen a physician prior to her admission to the hospital unconscious and in shock. She had lower abdominal pain and weakness four to five days before admission. She was given stimulants and two units of blood. She expired soon after admission, before surgery could be performed. A note was made that the blood had been flown in by a Highway Patrol plane.

Case No. 4
A 22-year-old white gravida 2, para 1 had received adequate prenatal care. Labor ensued at term and there was a normal delivery without lacerations. The blood loss was es-

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Doctor Crosby is a Fellow of the American College of Obstetrics and Gynecology and a member of the Alpha Omega Alpha.

Hemorrhage / CROSBY

estimated at 600 cc. The uterus was atonic during the first few hours postpartum and intravenous fluids and albumin were given. Shock developed and cortisone was given. She was returned to the operating room under artificial respiration where the uterus was packed. No blood was given nor was there an autopsy. A pathologist commented that the death was compatible with afibrinogenemia.

Case No. 5

A 17-year-old Indian nullipara was found to have anemia on the only visit to the clinic that she made. The physician later was called to the home where he found the patient in shock. There was no light available so he returned to his office for light and instruments. On his return, he found that the patient had an inverted uterus. In the hospital, the uterus was replaced but the patient died ten minutes later. No blood was available and none was given.

Case No. 6

A 42-year-old white para 11 with adequate prenatal care had recurrent episodes of vaginal bleeding which required hospitalization throughout the last half of pregnancy. The patient entered the hospital with vaginal and rectal bleeding and was vomiting blood. She was treated with plasma and glucose. She was in shock on admission and died eight to 12 hours later without receiving any blood.

Case No. 7

A 39-year-old white woman with a history of 12 abortions and two premature deliveries by cesarean section was seen in early pregnancy and found to have hypertension. Chronic renal disease had been diagnosed several years before. She entered the hospital during the seventh month of gestation because of recurrent vaginal bleeding but labor had not started. The patient was seen later in shock, without external bleeding. She died in a few hours before blood could be given. Upon death, a postmortem laparotomy was done. The uterus was ruptured with the dead fetus lying in the abdominal cavity.

Case No. 8

A 42-year-old white multipara with adequate prenatal care developed toxemia at term. Oxytocin induction of labor was be-

gun. Labor and delivery were normal but postpartum bleeding was excessive. The uterus was explored with a sponge. The uterus was atonic and the bleeding continued. She was re-examined. Shock ensued and the patient died. She received a few cc. of unmatched blood before death. The reporting physician stated that difficulty had been encountered in obtaining blood, nursing help and consultation.

Case No. 9

A 33-year-old Japanese multipara with adequate prenatal care was admitted for delivery which was normal. Hemorrhage of over 1,000 ml. of blood followed delivery of the placenta. Bleeding continued but no blood was given. The patient died two hours later.

Case No. 10

A 32-year-old Negro multipara with a history of previous cesarean section had obtained adequate prenatal care. A few weeks before term, the physician was called to the home where he found the infant had been delivered. The mother was in shock and bleeding vaginally. The patient was taken to the hospital immediately where she was given intravenous fluids and taken to surgery where several lacerations of the vagina were repaired. She died in the operating room one hour after admission without having been given blood.

DISCUSSION

Unexpected hemorrhage is a constant threat to every pregnant woman. As illustrated in these case reports, sudden hemorrhage can occur in early pregnancy in association with abortion or ectopic pregnancy. It can occur in mid-pregnancy with uterine rupture or premature labor. In late pregnancy, premature separation of the placenta or placenta previa can tax the resources of the most well-equipped hospital. Postpartum hemorrhage, however, is the most common single cause of death in pregnant women. It can occur with devastating rapidity and may literally exsanguinate the patient within an hour. Postpartum hemorrhage shows no deference to the quality or experience of the obstetrician or to the socio-economic status of the patient; it can occur anywhere at any time. Furthermore, maternal deaths from

hemorrhage are almost completely preventable. We cannot always prevent the hemorrhage, but prompt and adequate replacement of blood, in association with measures to control the cause of bleeding, are nearly always successful in preventing death.

Measures designed to anticipate or to avoid serious hemorrhage in complications of pregnancy are many and in general well-understood. The prevention of anemia by proper diet and iron therapy will provide protection against death from hemorrhage by increasing the amount of blood a patient can lose while maintaining an adequate oxygen-carrying capacity. Uterine atony itself is more common in anemic patients and blood replacement alone may be followed by improved uterine contractions. Knowledge of the patient's blood type in early pregnancy will allow plans to be made to deliver the patient with an unusual blood type in a better-equipped hospital or to have such blood available locally if it is needed. Laparotomy immediately upon making the diagnosis of ectopic pregnancy or uterine rupture will prevent the death of all but the most moribund patients, provided blood loss is soon replaced. A detailed discussion of the management of third trimester bleeding is beyond the scope of this paper; but in most cases transfer of the patient to a better-equipped hospital is well-tolerated as long as *she is not examined vaginally or rectally*.

Anticipation of postpartum hemorrhage cannot always be done successfully but certain conditions that are known to be associated with it can be identified and steps may be taken to treat the hemorrhage if it occurs. Such conditions include twins, polyhydramnios, uterine inertia, anemia, a history of previous postpartum hemorrhage and above all, grand multiparity. When any of these conditions exist, postpartum hemorrhage is to be expected. The patient should have blood typed and cross-matched and available for her *in the hospital* when she is in labor. The delivery should be conducted with a large caliber needle in a vein and there should be someone available for injection of an oxytocic upon delivery of the placenta. The same precautions would apply in patients with retained placenta in whom manual removal is necessary.

These measures will prevent excessive bleeding in many cases. However, we cannot always prevent hemorrhage and in situations where we cannot, immediately available blood may make the difference between maternal life and death.

There are two solutions to the problem of inadequate facilities for blood replacement: either improve the facilities or avoid using them.

No hospital should electively care for obstetrical patients without the *immediate* availability of blood. If the local hospital is not large enough to warrant a fully equipped blood bank, arrangements can be made with the nearest adequate facility to provide at least four units of O negative, low-titer blood to be kept in the local hospital for emergency use. This blood must be replaced with a fresh supply periodically and must be kept in an approved refrigerator. The so-called "walking blood bank" in which the entire community is typed and available on short notice for blood donation is an excellent substitute for the usual blood bank but only when there is at least a small supply of whole blood available in the hospital itself.

As to the second solution, when the local hospital is unable, or the community is unwilling, to provide adequate facilities for blood replacement, it is unwise for the physician to practice elective obstetrics in that hospital. The risk of sudden and unanticipated hemorrhage is too great; the advantages of a short distance from home and the family are too little.

SUMMARY

The causes of maternal death in Oklahoma from 1957 through 1961 have been reviewed. Hemorrhage has been identified as the leading cause of death in pregnant and puerperal women. Suggestions are made for anticipating and managing hemorrhagic complications of pregnancy and for improvement of blood replacement facilities in local hospitals. □

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Psychiatric Complications of Obstetrical Practice

JAMES L. MATHIS, M.D.

Pregnancy is an emotional crisis demanding some psychological adjustments. Severe reactions are uncommon, but those of lesser intensity necessitate an understanding of them if pre-natal care is to be complete.

PREGNANCY invariably demands of the female a major readjustment of her life situation. This is complicated by physiological and endocrine changes, and perhaps of most significance, by unconscious factors which may be reactivated by the multiple meanings of childbearing.

Scientific advances have reduced the physical dangers of childbearing to a minimum, but this has not affected the psychic reorganization which is necessitated by becoming a mother unless it has actually increased its relative significance.¹ Prenatal care is an accepted part of preventive medicine for both the mother and the coming infant. An understanding of, and an ability to deal with,

the psychological components of pregnancy should be an integral part of all prenatal care.

The ideal pregnancy should represent the normal fulfillment of the reproductive urge in a physiologically and emotionally matured female. Physiological maturity is far more frequently present than is its emotional counterpart. This means that pregnancy can represent many things to a woman; an abnormal desire to prove her femininity, proof of unwanted femininity, a loss of dependency status and the approval with which it is equated, an abnormal desire to possess a love object of her own, an unconscious desire for self punishment, and, especially in the unwed, an unconscious desire to punish others, usually parents.

The normal psychological reactions to pregnancy vary somewhat with the stage of gestation, and, in most instances, are satisfactorily resolved.² More overt anxiety, depression and hysteria are seen during the first trimester. Of the women interviewed in one series, 80 per cent were able to admit feelings of disappointment and anxiety during early pregnancy. The value systems of our culture do not allow most women to ex-

press these feelings overtly and to recognize the relatively normal aspect of them. The depths of these feelings will be determined primarily by the unconscious meaning of the pregnancy, but the effects of them will be colored by the husband's attitude, the number of previous pregnancies, the stability of the family unit, demands of living space, financial complications, and so forth. The first trimester of pregnancy is the proper time to learn how much of this information is relative to the specific patient and to begin using it to aid the woman in her adaptation to the pregnancy.

Some reorganization usually occurs during early pregnancy and the second trimester is marked by an increase in introversion, passivity and dependency.² The average woman will have successfully worked through the initial anxiety and depression, but now she will need extra supplies of love and affection just as she needs extra nutritive materials. The woman who finds herself unable to accept this dependency role, or one who has previously assumed the role of the family leader, may have difficulties when she finds herself faced with this dependency need.

In the last trimester there is a weakening of the defensive forces and old conflicts and fantasies threaten to come into consciousness. Free floating anxiety may not be so evident but minor phobias, obsessions and broodings may indicate its presence. Memories of early parental conflicts, sibling rivalries, adolescent turmoils and guilts become more prominent and threatening to the woman's psychic stability. These can usually be worked through with an actual increase of maturity, but on occasion the woman may relieve these tensions by involving the coming baby through identifying it with one of the earlier actors in her life situation.² The degree and type of her "motherly love" for the baby may depend largely on this factor.

These reactions fall within the range of the normal psychological changes that may occur during some stage of pregnancy. The long range effects that they may have on the woman's health and the future welfare of the child will depend greatly upon her emotional maturity. The mature woman's ability to resolve these conflicts adequately will depend partly on the attitude of her family, es-

pecially the husband, and on the physician who cares for her. Our culture has tended to exclude the future father from the prenatal picture and to place him in a rather impotent position. This apparent loss of importance in relation to his wife's new position and privilege may lead him to develop an unconscious, or even almost conscious, jealousy of the coming baby. It is frequently helpful to ask the husband to take an active part in and to feel a part of the pregnancy and, therefore, to aid his wife in her emotional growth.

We will concern ourselves directly with two specific complications and one non-specific complication of pregnancy.

HABITUAL SPONTANEOUS ABORTION

Habitual spontaneous abortion indicates three consecutive abortions without demonstrable organic cause. Statisticians tell us that a woman who has had three consecutive spontaneous abortions has about one chance in four of carrying the next pregnancy to term.⁴ Most of these abortions occur in the second trimester and frequently when the patient feels the first sign of fetal movement. The personalities of these women have been found to be remarkably similar. They are immature women whose mothers are dominating, constant and dependable figures who tend to make their daughters dependent on them almost to the point of addiction.^{6,7} These women have come to see the dependency on mother as a necessity for retaining mother's love and affection. Pregnancy represents a direct threat to this love and affection. Their fathers are frequently either absent, weak, or in any event, relatively incompetent figures in relation to the mother. It appears significant that most of these women marry relatively passive and incompetent husbands much like their fathers.

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The personality changes of increased petulance, childishness, dejection and anxiety, in other words signs of regression, occur prior to the abortion.⁶ These personality changes have been noted to occur simultaneously with significant drops in the blood levels of estrogen, pregnandiol and chorionic gonadotrophin.¹¹ These women appear extremely adept at seeking precipitating factors such as family quarrels, minor accidents, separations, and so forth, and then using them to justify the abortion.

Most workers consider the personality and the interest of the physician as the most important factor in the treatment of habitual spontaneous abortion. One highly successful approach was to make the first visit a two hour interview which included both husband and wife.⁶ The emotional aspects of the coming prenatal care were emphasized more than the physical. The woman was seen weekly in a combined prenatal check and psychiatric interview. The interviews accented the woman's attitude toward and relationships with mother, husband and other significant family figures until the first fetal motion was felt. The interviews changed direction at this point and became concentrated on the acceptance of motherhood and on plans and feelings toward the unborn child. The patient was assured that she could call on the physician at any sign of difficulty. Each patient tested this by making at least one off-visit call during the first trimester, but no patient made over two calls after being assured that the physician was available.

HYPEREMESIS GRAVIDARUM

The second specific condition, the pernicious vomiting of pregnancy, has been termed by Menninger an attempt to extrude an unwanted object.⁹ Vomiting is an accepted method of expressing distaste, disgust, and so forth, in our culture. It is of interest to note that native Orientals, Mexicans, and American Indians rarely vomit during pregnancy, and that pernicious vomiting is relatively unknown. This is no longer true once they become amalgamated into our westernized culture.

Limited morning vomiting may be accepted proof of pregnancy even in mothers who have no deep unconscious conflicts. It becomes a danger only in women who have old impregnation fantasies which have not been completely repressed or which tend to return to consciousness during pregnancy. These are usually women who have an excessive maternal attachment and who show strong aggressive, hostile feelings toward men.⁵

Most vomiting ceases at or about the time of first fetal movement. Less than one per cent of the general obstetrical population will become pernicious vomiters. The histories of these women show no more psychiatric illnesses than the average population and they fit no set personality pattern, although a tendency toward the "hysterical character" appears more common.

The physician should look for secondary gain similar to that seen in conversion reactions in the patient with hyperemesis gravidarum. This secondary gain frequently has the dual components of the added attention and sympathy received from immediate family and friends, and the hostile aggressive component which is usually directed toward the husband. We have, therefore, the primary fact that the patient unconsciously desires to be rid of the pregnancy, and the secondary elements of receiving attention and expressing hostility.

In all treatment plans hospitalization to correct the physical defects caused by the vomiting is of primary importance. The physician must then give attention to the removal of the secondary gain. This requires conferences with the significant figure in the family, usually the husband, who is responding to the symptom. He must be helped to give the attention and sympathy without the necessity of the patient procuring them through the symptomatology of vomiting. Psychotherapeutic sessions with the patient must allow her to learn to express her hostility without being ill. She must be allowed to ventilate her feelings about the pregnancy, her fears of its effects upon her future life, and she must be guided to more efficient and acceptable methods of emotional release. There is no contraindication to the use of the phenothiazine drugs which are both tranquilizing and anti-emetic.

These women are usually considered to be good hypnotic subjects, and when the treatment is used judiciously and followed by adequate psychotherapy, hypnosis may shorten hospitalization and reduce the secondary effects of the vomiting.⁴ The successful treatment plans for hyperemesis gravidarum include methods which allow the patient to receive attention from the medical personnel and to develop dependencies upon them. The physician must see that this dependency and transference is shifted back to the family at or before the termination of pregnancy.

PUERPERAL MENTAL ILLNESS

Puerperal mental illness, including both antepartum and postpartum phases, is not a distinct psychiatric entity.¹⁰ More than half of the cases are schizophrenic reactions and the remainder fall primarily into the depressive categories.³ Pregnancy appears to act merely as a precipitating factor on a personality already predisposed to mental illness. The one universal finding in these women is an actual or symbolic rejection of the coming child. There are no consistent pre-pregnancy personality patterns just as there are no consistently significant features of the pregnancy.

Puerperal psychotic breaks are not common. However, many depressions of lesser severity occur, and while not so dramatic, they none the less are of great importance to the patient and to the new baby. Many of these are masked by complaints of fatigue and various other physical symptoms which appear to the physician as minor annoyances. They are usually expressions of the woman's insecurity or of her downright dissatisfaction with her new role of motherhood. The sudden breaking of an intense relationship to the valued figure of the obstetrician must not be discounted in importance. The pediatrician who must replace the obstetrician as the significant figure may bear the brunt of the woman's anxieties.

The best treatment of puerperal mental illness is prevention. This is achieved through close and trusting relationship with an attending physician who possesses a healthy maturity, and who is willing and able to listen actively. Active listening is hard work,

and contrary to the opinion of many, it is a sound and effective medical practice.

Hospitalization is usually indicated when puerperal mental illness is of psychotic intensity. Those whose illness is predominantly schizophrenic should be treated with liberal amounts of phenothiazines whether before or after delivery. When the predominant symptomatology is depressive without the schizophrenic overlay, the treatment may include one of several mood elevating drugs, and when the depression is of psychotic depth, it may be shortened greatly by the judicious postpartum use of electric shock treatment. The effectiveness of shock therapy, however, is questionable in schizophrenic reactions.

The prognosis for a psychotic illness associated with child bearing appears somewhat better than that of the non-pregnant patient. This does not appear related to the condition primarily, but appears to be secondary to the fact that these women invariably receive much earlier treatment since they are already under a physician's care.¹⁰

The question arises as to future pregnancies. Figures for this vary, but it appears that there is at least a 20 per cent chance of recurrence with a future pregnancy.⁸ A pregnancy within two years is definitely contraindicated, but even after longer periods, each case should be assessed individually.

SUMMARY

Pregnancy is a time of emotional vulnerability not necessarily related to the woman's conscious attitude toward motherhood. In certain predisposed individuals two psychiatric conditions specific to pregnancy, habitual spontaneous abortion and hyperemesis gravidarum, may occur. The postpartum or puerperal mental illnesses are not distinct entities, and do not differ in symptomatology, treatment or long range prognosis from similar mental illnesses in non-pregnant women. The effects of the stress of pregnancy depend on the previous personality of the individual patient, her conscious and unconscious attitudes toward pregnancy, the attitude of the husband and close relatives, and of most medical significance, the attitude of the obstetrician. The most consistent finding in those

Complications / MATHIS

women who suffer a psychiatric complication of pregnancy is a marked ambivalence toward pregnancy and future motherhood. □

The author expresses his appreciation for the opportunity to work with James Merrill, M.D., Chief of Gynecology and Obstetrics at the University of Oklahoma Medical Center.

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PROJECT VIET-NAM EXPANDING

The program director of Project Viet-Nam has reported after a recent fact-finding tour of South Viet-Nam that the Project's bi-monthly quota of volunteer physicians may soon be "increased significantly."

Doctor Edwin W. Brown Jr., associate medical director of Project HOPE and program director of Project Viet-Nam, said that the volunteer physicians now in South Viet-Nam "are doing an outstanding job and have expressed enthusiasm for their assignments."

According to Doctor Brown, some of the Project's 18 doctors now in the Southeast Asian country have said they plan to extend their tours of duty beyond the minimum period of 60 days.

"Because of the success of the program thus far," Doctor Brown reported, "both Vietnamese and American officials have requested that the quota of volunteer physicians be increased as rapidly as adequate facilities can be provided for them."

To meet the increasing demand, Doctor William B. Walsh, president of Project HOPE and The People-to-People Health Foundation, Inc., which administers Project Viet-Nam, said that the number of volunteers per two-month period probably will be boosted to 30 from the present quota of 20.

Doctor Walsh pointed out that more than 100 physicians have applied for service under Project Viet-Nam and another 500 have inquired about the new project.

Under Project Viet-Nam, doctors volunteer for a minimum of two months' service without pay, to administer to the medical needs of Vietnamese civilians injured in the war or suffering from the many natural ailments prevalent in that country. The greatest need is for orthopedic surgeons, general practitioners and specialists in internal medicine, Doctor Brown said.

The program director said that doctors interested in serving the Project may submit their queries or applications to Project Viet-Nam headquarters at 2233 Wisconsin Ave., N.W., Washington, D.C.

The Timed Vital Capacity

WHITNEY W. ADDINGTON, M.D.
DARLENE ANDERSON, R.N.

*A simple, rapid and meaningful test
for obstructive lung disease.*

INTRODUCTION

IN 1846 HUTCHINSON¹ "advanced deductions with modesty and hesitation" about the vital capacity. His finding of a close relationship between the presence of dyspnea and a reduction of vital capacity is often quoted in reports concerned with restrictive lung disease. Gaensler² has commented that Hutchinson's little known experiences with a patient who lacked "expiratory power," had dyspnea and had a normal vital capacity perhaps is the first known physiologic study of obstructive lung disease. Hutchinson's confusion about his patient with obstructive lung disease would have been clarified if the time required for maximum expiration had been noted. Indeed, it is the reduction of the volume exhaled during a timed increment of the forced vital capacity that indicates

airflow obstruction.³ In obstructive lung disease the total vital capacity, exhaled over a prolonged period, can be normal. Hence, the measurement of the first second volume of the vital capacity is an excellent method of diagnosing and re-evaluating patients with obstructive lung disease. The purpose of this report is to outline our procedures on the Multiphasic Screening Unit with the simple, rapid and relatively inexpensive timed vitalometer (see figure). The table indicates several simple instruments available in addition to the timed vitalometer for measuring the timed vital capacity and other lung functions.

DEFINITIONS

It is imperative that everyone performing and interpreting the timed vital capacity understand the following definitions:

*Produced under the auspices of
the Oklahoma Thoracic Society*

A. The vital capacity is the largest volume of gas that can be exhaled by voluntary effort after a maximal inspiration.

B. The timed vital capacity, here the one second, is the volume of gas that is exhaled during the first second while performing the vital capacity.

From the Oklahoma State Health Department and the Department of Medicine, University of Oklahoma Medical Center, Oklahoma City, Oklahoma.

DIRECTIONS FOR DETERMINING A
TIMED VITAL CAPACITY

A. The procedure should be explained carefully to the subject. He should understand that what is required is that he get as much air into his lungs (maximum inspiration) and then blow it out into the vitalometer as rapidly and as completely as possible. The test is meaningful only when the subject gives his best effort. He should be taught how to keep his lips tightly around the mouthpiece. Nose clips should be applied correctly and care must be taken so that no gas can escape through the nose during the test.

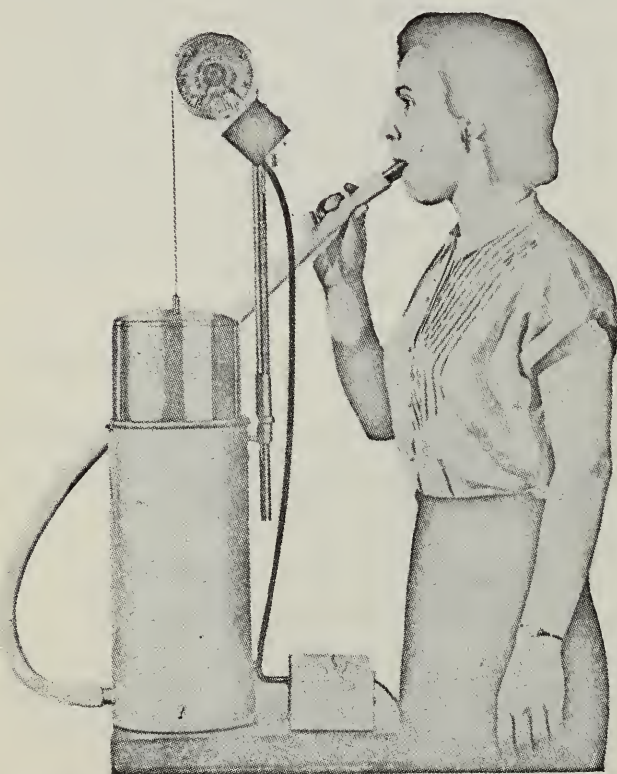
B. The spirometer is then checked to make sure that the pointers are at zero, the water level is proper, and the spirometer bell is not touching the walls of the tank.

C. The subject should be standing during the test. With the nose clips on, the subject inspires maximumly through his mouth; then the mouthpiece is put in place quickly and

he exhales as much gas as rapidly as possible. It is imperative that the patient should be encouraged vigorously during the test; the shouting of "blow! blow! blow!" is customary. After an initial trial, the test is repeated three times and the best performance recorded. The timed vitalometer automatically and simultaneously measures the total vital capacity and one second vital capacity. The lower limit of normal for the one second vital capacity is 70 per cent of the total vital capacity. This percentage is obtained by dividing the liters exhaled during the first second by the liters of total vital capacity. There are several reports of normal total vital capacity measurements and the series⁴ that we use as a standard on the Multiphasic Screening Unit will be supplied with reprints of this article. It is impossible to interpret either the timed vital capacity or total vital capacity if the subject does not give his best effort. Thus, the results obtained on a subject who either did not understand the test or was uncooperative must be disregarded.

MEANING AND USE

A reduction of the timed vital capacity is the physiologic expression of obstructive lung diseases such as emphysema, chronic bronchitis and asthma.⁵ Asthma can be distinguished from chronic bronchitis and emphysema as the obstruction to air flow is transient and reversible. Hence, asthmatics when



The weight of the timed vitalometer is less than 18 pounds completely assembled. The diameter of the spirometer body is only seven inches and its height is 16 inches.

Whitney W. Addington, M.D., a graduate of the Northwestern University School of Medicine, is now Clinical Associate in the Department of Medicine at the University of Oklahoma School of Medicine. He is Medical Officer of the United States Public Health Service assigned to the Oklahoma State Department of Health.

Doctor Addington is a member of the American Thoracic Society, the Oklahoma Heart Association, the Oklahoma Thoracic Society and the American Association for the Advancement of Science.

Darlene Anderson, R.N., is currently with the State Public Health Department and conducts the vital capacity on the multiphasic chronic disease screening unit.

Table

The following instruments have been found suitable for the practitioner, clinic or small hospital. They are easy to use and are sufficiently accurate for clinical purposes. The Ventube and the Vitalor are portable.

<i>Apparatus</i>	<i>Available from</i>	<i>Approx. Cost</i>
Ventube	J. H. Emerson Co. 22 Cottage Park Ave. Cambridge 40, Mass.	\$ 85.00
*Timed Vitalometer	Warren E. Collins, Inc. 555 Huntington Ave. Boston 15, Mass.	\$225.00
Vitalor	McKesson Appliance Co. Toledo 10, Ohio	\$150.00

*This is the instrument used on the Multiphasic Screening Unit.

well will have a normal timed vital capacity. Patients with chronic bronchitis and emphysema can have periods of severe bronchospasm, often related to superimposed infection, and their timed vital capacity will improve as the bronchospasm is decreased. Nevertheless, the timed vital capacity will remain below normal when obtained on maximally improved patients with chronic bronchitis and emphysema.

The precise incidence of obstructive lung disease is not known since it is not a reportable condition. One prevalence survey⁶ indicated that 17 per cent of a working adult population had significant obstructive lung disease. Naturally, the incidence is considerably greater in a symptomatic and disabled population. It is known that significant emphysema was found in half of the consecutive autopsies that were reviewed.⁷ The

need for a rapid and simple test, such as the timed vital capacity, to detect early obstructive lung disease is apparent.

The timed vital capacity can be very effective in detecting obstructive lung disease. In 1951 one hospital⁸ found that the clinical and the pathological diagnoses of emphysema agreed in less than five per cent of patients while in 1963 the agreement was 81 per cent. The use of timed vital capacity measurements was an important factor in the dramatic improvement in clinical acumen.

CONCLUSION

The timed vital capacity is a simple, rapid and meaningful test for detecting and re-evaluating patients with obstructive lung disease. It would appear that this procedure would be an important addition to both clinic and hospital.

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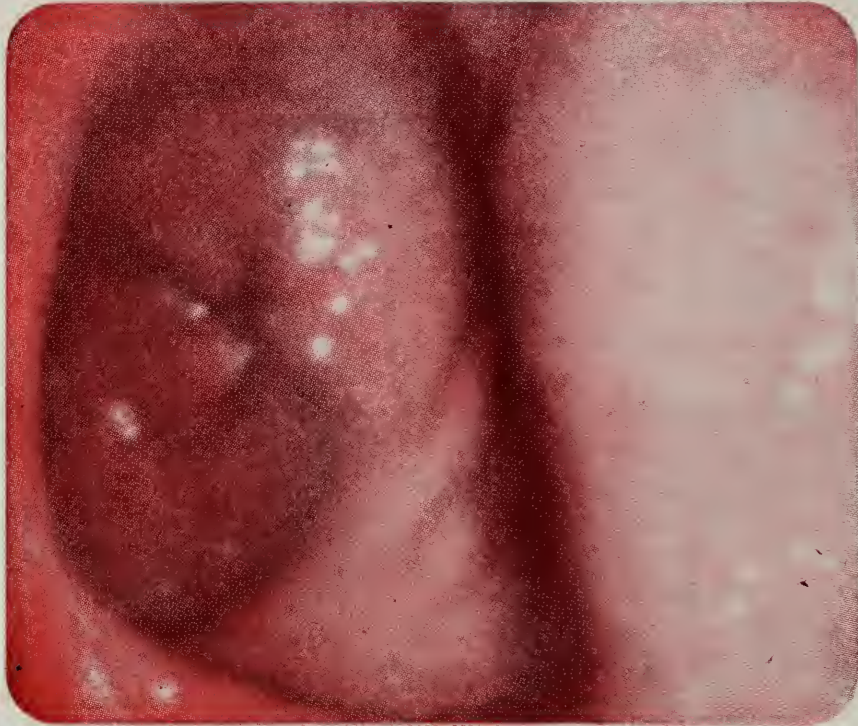
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IMMUNIZATION

A survey two years ago showed that 60 per cent of American children one to four years old had not completed standard diphtheria, whooping cough and tetanus immunization; 40 per cent had not been vaccinated against smallpox, and 32 per cent had not been immunized adequately against polio.

Intragastric photography studies¹



A/ E. B., male, age 48. Normal antral contraction. Pyloric opening is not seen. It is difficult to differentiate a deep prepyloric contraction from a "pyloric fleurette" or true pylorus.

B/ Same subject after 6 mg. of propantheline bromide intravenously; antral contractions ceased. The pyloric orifice remained open and was easily identified. Better visualization of the antrum was also obtained.



Now you can see Pro-Banthine[®] at work (propantheline bromide)

Pro-Banthine is so effective in anticholinergic action that it may be employed in visualizing the entire pyloric region.

In addition to the intragastric photographs, cinegastroscopic studies² have demonstrated graphically not only its effectiveness but the superiority of Pro-Banthine over belladonna alkaloids.

Pro-Banthine produced complete cessation of gastric, antral and pyloric motor activity with a dose of 6 mg. intravenously. This is approximately one-third the usual oral dose of 15 mg.

Atropine at full normal dosages did not produce such cessation. It required double the usual oral dose of atropine, 0.8 mg. intravenously, to duplicate the aperistaltic action of Pro-Banthine. This dose of atropine produced pronounced discomfort and tachycardia with ventricular rates as high as 150 per minute.

It is this pharmacologic superior-

ity of Pro-Banthine which has made it the most widely prescribed anticholinergic in such conditions as peptic ulcer, functional hypermotility, irritable colon, pylorospasm and biliary dyskinesia.

Dosage—The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15 mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily.

Side Effects and Contraindications—Urinary hesitancy, xerostomia, mydriasis and, theoretically, a curare-like action may occur. The drug is contraindicated in patients with glaucoma or severe cardiac disease.

Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

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SEARLE

Research in the Service of Medicine

Recent Advances in the Pathophysiology of Endotoxin Shock

RAY M. JOHNSON, M.D.

Presented in the following article is a brief review of the pathophysiology of endotoxin shock and a proposal of a possible mechanism of action of endotoxin on the vascular system.

ENDOTOXIN SHOCK or bacteremic shock is defined by Spink¹ as a state of peripheral vascular collapse induced by a lipid-polysaccharide-protein complex liberated from the cell wall of Gram-negative bacilli. This is probably the most common form of shock seen in hospitals today. It has resulted in a mortality rate of between 50 and 75 per cent, a mortality rate that has remained relatively unchanged during a half century of medical progress. Shock is defined by Collins² as a syndrome with reduction of the effective circulating volume accompanied by depression of many systems which becomes self-sustaining and progressively impairs the peripheral circulation until it culminates in

a state of irreversible failure. The definition applies to hemorrhagic and traumatic shock as well as endotoxin shock since these three types of shock are very similar in their clinical manifestations and basic hemodynamic responses.

The endotoxin itself is derived from the cell walls of Gram-negative bacteria. It is described as toxic substances produced by Gram-negative bacteria principally which are designated, as a class, the somatic antigens of these bacteria.³ The endotoxin has been defined biochemically as a phospholipid-polysaccharide-protein complex which is antigenically separate for each bacteria but has a common pathophysiological effect on mammals. The phospholipid portion is given the quality of toxicity and the polysaccharide portion the quality of antigenicity.³

CLINICAL PICTURE

Human: The clinical picture of endotoxin shock is like that seen in other types of shock. There is pallor, cyanosis, disorientation or unconsciousness, cold extremities, elevated rectal temperature, rapid, feeble pulse, loud cardiac sounds, collapsed veins and reduced arterial pressure.⁴ Other clinical observations seen in circulatory failure secondary to infection are: There is no actual decrease in

From the Department of Pediatrics and the Children's Memorial Hospital, University of Oklahoma Medical Center, Oklahoma City, Oklahoma. Presented at a Student Seminar in Pediatrics.

total blood volume, the resistance in the peripheral arteries is increased, the function of the myocardium is not affected, the pressure in the inferior vena cava is normal yet the cardiac output is decreased.⁴ From these observations the inference is that pooling of the blood in the peripheral or visceral capillaries or veins results in a decreased venous return to the right heart resulting in decreased cardiac output.

Dog: The clinical picture of endotoxin shock in the dog is similar to that seen in anaphylactic shock^{5, 6} with the exception that there is no change in blood coagulability with endotoxin administration, and endotoxin has an additional delayed effect that leads to rapid death after hepatectomy. Also in the dog there is profuse, bloody vomiting and diarrhea associated with hemorrhagic intestinal lesions. There is also an increase in lactic dehydrogenase^{7, 8} and alpha-butyricdehydrogenase activity⁸ following endotoxin administration in dogs.

PATHOPHYSIOLOGY

Cardiovascular: After injection of a lethal dose of endotoxin in the dog there is a lag period of one to ten minutes with a subsequent sharp decline in the systemic blood pressure.⁹ With this sharp drop in blood pressure there is an increase in the portal venous pressure (PVP) while the pressure in the inferior vena cava remains essentially unchanged. The subcutaneous venous pressure decreases from 1.5 to 7 mm. With the sharp decline in blood pressure there is also a rapid decline in the cardiac output.¹⁰ After a period of time the systemic blood pressure returns to pre-endotoxin levels with a corresponding increase in the cardiac output. After this return to normal or near normal pre-endotoxin blood pressure, the systemic arterial blood pressure gradually declines as does the cardiac output.⁹ At no time it is possible in these experiments to attribute the arterial hypotension to a fall in the calculated peripheral resistance. If the animals are maintained by a mechanical heart-lung system,⁹ there is no fall in the arterial pressure, but the rise in portal venous pressure is not prevented but actually accentuated. In dogs which are maintained on a constant rate of cardiac filling by means of a venous reser-

voir system with constant cardiac output,⁹ there is, coincident with the rise in portal venous pressure, a rapid decline in the venous return reservoir level which is evidence for the decreased venous return mentioned previously. Shock is then due to a marked decrease in venous return secondary to pooling in post-arteriolar beds since there is no increase in the calculated total peripheral resistance.

Through the use of isolated, denervated dog legs, it has been shown that, following injection of endotoxin, the dogs liberated vasoactive substances which caused large changes in leg arterial resistance and an increase in the small vein pressure with resultant formation of edema.¹¹ For an edematous condition to ensue following endotoxin injection, the inference is that there must be a greater resistance to flow in the venous side than in the arterial side so that the hydrostatic pressure in the capillaries can overcome that of the tissues with resultant extravasation of fluid into the interstitial space.

In studies with eviscerated dogs which are maintained with a constant cardiac flow with a continuous monitoring of mean arterial pressure and total venous return, a significant fall in mean arterial pressure occurs within 30 minutes following injection of endotoxin, therefore there must be a decrease in total peripheral resistance.¹² There was also a small but significant pooling of the blood. If the dogs were totally eviscerated,¹² the results were indistinguishable, therefore pooling occurred in the systemic vessels. Since with the intact dog there is a rapid decrease in the blood pressure shortly after endotoxin administration, it is safe to assume that the hepatic and portal circulation play a major role in the initial decrease in blood pressure and cardiac output. The conclusion from the results with the eviscerated dogs is that there is a decreased vascular

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Work on this paper was done while Doctor Johnson was a fourth-year medical student.

tone which probably plays a role in the later phase of endotoxin shock. In an attempt to explain this decrease in vascular tone on the basis of altered response to vasoactive substances, experiments were performed on perfused dog forelimbs and lungs to test the reactivity of the vasculature to epinephrine.¹³ It was found that there was no altered response of the vessels to epinephrine following endotoxin injection.

Pulmonary: In studying the effect of endotoxin on the pulmonary circulation of dogs, intact animals, open chest animals (with and without control of the cardiac output with extracorporeal venous reservoir-pump system) and isolated, continuously perfused weighed lungs were used.¹⁴ A rise in the pulmonary artery pressure was seen without a rise in the left arterial pressure in all preparations following endotoxin. The pulmonary arterial wedge and small pulmonary vein pressures were increased uniformly. In calculating the pulmonary arterial and pulmonary venous resistances it was found that the absolute increase in pulmonary venous resistance was greater than the pulmonary arterial resistance which was borne out by the fact the the lungs always showed an increase in weight. It was thereby surmised that the pulmonary response to endotoxin was characterized predominantly by constriction of pulmonary venules or small veins. Using isolated, perfused lungs an attempt was made to demonstrate a direct response of the lung to endotoxin by the use of different perfusates.¹⁵ If the lung were perfused with heparinized whole blood, the response to endotoxin was identical to that described previously; but if gelatin or dextran were used, there was no response to endotoxin. If heparinized plasma free of formed elements were used there was a minimal or absent response to endotoxin. There was a delay period after the injection of endotoxin equaling or exceeding the time required for recirculation through the perfusion system. The conclusion was that endotoxin had no direct effect on the lung vasculature and that the response was dependent upon interaction between endotoxin, a plasma factor or platelets.

Gastrointestinal: In studies of endotoxin-induced liver and intestinal weight changes in the dog, it was found that the increase in liver weight occurred within the first three minutes and simultaneously with the decrease in systemic arterial pressure and the increase in portal venous pressure.¹⁶ The storage of fluid in the intestine as a result of back pressure from the liver was minor during the initial shock phase, but there was a large weight gain later which occurred regularly even though the liver and portal venous pressure had returned to normal. It was felt that by these results one could say that the primary hypotension was due to a decrease in venous return secondary to increased liver weight and increased portal venous pressure as the change in liver weight was approximately equal to the decrease in venous return. The secondary hypotension was believed to result from pooling of blood in the small intestine.

Renal: The circulatory changes in the kidneys of dogs were arrived at by means of the use of changes in weight. Following rapid injection of endotoxin, there was a sudden fall in kidney weight beginning 15 to 35 seconds after injection of endotoxin which occurred independently of the changes in blood pressure.¹⁷ There was an average of a 25 per cent decrease in weight which occurred 65 to 195 seconds before the blood pressure began to fall. It was felt that this change in weight was the result of an intense vasoconstriction which was segmental and involved the afferent arterioles only which could lead to ischemia and renal shut-down. In conducting further studies on renal circulation, the tubular maximum for paraaminohippurate (PAH), PAH extraction ratio and rate were measured as the dogs were maintained at a constant arterial pressure.¹⁸ Following injection of endotoxin there was a decrease in all measured parameters which was temporary and was the result of a decrease in renal blood flow. All parameters returned to pre-endotoxin levels as the renal blood flow returned to normal. Through the use of histochemical techniques it was found that there was a decrease in renal alkaline phosphatase which was segmental and corresponded to the segmental vasoconstriction of the afferent arterioles. It was felt that this decrease rep-

resented evidence of tissue anoxia in the tubular cells.¹⁹

Species Differences: It has been shown that there are species differences in the circulatory response to endotoxin.²⁰ This was demonstrated in a group of experiments using monkeys, rabbits and cats where the parameters measured were aortic and pulmonary artery pressures, portal venous pressure and changes in the weight of a short segment of intestine. There was no early precipitous drop in the blood pressure except in the cat which could be ascribed to pulmonary vascular constriction resulting in acute right ventricular hypertension and failure. There was no significant increase in gut weights and only a minor increase in the portal venous pressure, thus showing that there was no hepatic vein constriction and splanchnic pooling as a significant mechanism in producing the early shock in these animals. The resultant shock, therefore, indicated that the systemic vascular beds, in species other than dogs, must be the significant site of pooling, an experimental fact which can be shown on totally eviscerated dogs.

Adrenal Pituitary Axis: Secretory failure of the adrenal glands has continued to be implicated as a factor in the pathogenesis of peripheral circulatory collapse due to infection since the original reports of Waterhouse²¹ and of Friderichsen.²² However, a deficit of adrenal secretory products or their urinary metabolites in peripheral collapse due to infection has not been reported.

It has been shown with comparative studies on cortical function and cortisol metabolism in healthy adults and in patients with shock due to infection that there was no adrenal failure.²³ Corticotropin stimulation studies were done on eight normal adults and six patients in shock, and cortisol metabolism studies were done on nine normal adults and 20 patients in shock.²³ In the group of patients with shock, secondary to infection, there was demonstrable bacteremia in 70 per cent of the cases. There were nine autopsies performed in the series with only one instance of demonstrable adrenal pathology and that was a hematoma in a single adrenal gland.

In the studies the baseline plasma cortisol concentrations were 13 ug% for the normal healthy adult and 63 ug% for the patients with shock, with the average concentration in the moribund patients of the latter group being 73 ug%. Following corticotropin infusion the normal group's average cortisol concentration rose to 46 ug%, the shock patient group rose to 100 ug% with the moribund group being 112 ug% and the shock patients that recovered being 88 ug%. In assessing cortisol metabolism the rate of disappearance from the plasma of the infused cortisol was measured. In patients who survived the bacteremic shock most of the post infusion levels of cortisol were less than the initial concentration of endogenous cortisol. In the moribund patients the plasma cortisol levels remained above that of the endogenous levels. There is no doubt that cortisol infusion effectively inhibited corticotropin secretion even in the moribund patients; the difference in levels was attributed to defective metabolism of cortisol in the moribund patients. The plasma biological half-times for cortisol were approximately equal in the normal subjects and the shock patients who recovered, but were elevated four to five times in the moribund patients. It has been said that the biological half-times are determined to a large extent by the functional integrity of the liver; in the moribund patients the liver function studies were all abnormal whereas they were normal in the patients who recovered.²³

In dogs it was shown that injection of endotoxin produced a rapid increase in cortisol content of the plasma of the same order of magnitude as that produced by exogenous corticotropin and that the secretory response to exogenous corticotropin was diminished after intravenous injection of lethal doses of endotoxin.²⁴ The adrenal cortical response to endotoxin was abolished by hypophysectomy. In none of the animals did endotoxin produce adrenal secretory failure, and these studies confirm those done in humans.

The differential response of the adrenal cortex and medulla to endotoxin was demonstrated using intact dogs and dogs with transected spinal cords at the C5 to C6 level. The adrenal veins were cannulated and blood was withdrawn for measurement of cate-

cholamines and 17-hydroxy corticosteroids.²³ It was found that the amount of endotoxin needed to cause maximal adrenal cortical activity does not necessarily induce medullary activity. In cord-sectioned animals, no matter what dosage of endotoxin was used, no adrenal medullary response was seen. The cord-sectioned animals were more susceptible to the lethal effects of endotoxin.²⁵ This demonstrated that the adrenal medullary response is controlled by the central nervous system and that it is much less sensitive to endotoxin than the pituitary-adrenal axis.

It has been found in dogs that the plasma catecholamine levels reflected the blood pressure, *i.e.*, when the blood pressure is decreased, the levels of norepinephrine and epinephrine were increased, particularly epinephrine.²⁶ When the dogs were in the agonal state, there were very high levels of plasma catecholamines.

Central Nervous System: In studies done on unanesthetized, anesthetized, C6 transection (with or without vagotomy), cross circulation and decapitated dogs, each specific group of dogs gave the same picture, *i.e.*, hyperpnea, precipitous drop in blood pressure, increased portal venous pressure (up to four times normal), diarrhea and vomiting followed by hematemesis and bloody diarrhea, and death with a classical pathological picture at autopsy.²⁷ Although these studies do not rule out a central nervous system role in endotoxin shock, they do not support the thesis put forth by some that endotoxin shock is the result of a primary action of endotoxin on the central nervous system. Referring to the section on adrenal activity, it is seen that the adrenal medullary response is absent if the cord is transected in the cervical region thus implying that the central nervous system does play a vital role in the release of catecholamines.²⁵

As has been shown recently, if splanchnic denervation is carried out, either operatively or by lasting anesthesia of the celiac ganglion on dogs, the animals have no increase in portal venous pressure, no bowel lesions develop and there is no destruction of the reticulo-endothelial system's capability to de-

toxify endotoxin.²⁸ It was also demonstrated that irreversible shock can be prevented by lasting anesthesia of the celiac ganglion if applied within the first hour after the development of shock.²⁸

Possible Mechanisms of Action of Endotoxin: In an attempt to discover a "trigger" mechanism for endotoxin shock, studies were undertaken to demonstrate a plasma factor and/or formed element that combined with endotoxin to give the vascular responses in various species of animals. As mentioned previously¹³ different perfusates were used to test the response of pulmonary vasculature to endotoxin. It was shown that heparinized whole blood plus endotoxin gave the typical vascular response in the pulmonary bed, but dextran, gelatin and plasma minus formed elements did not. It was surmised that endotoxin acted through a plasma factor, formed elements or both. In a later study,²⁹ using *in vitro* techniques to study response of saphenous veins suspended in an oxygenated bath, it was shown that contraction of the vein was initiated by heparinized fresh whole blood plus endotoxin. If the whole blood was separated into plasma or serum fractions and subjected to heating at 56°C for 30 minutes and then reconstituted with the formed elements, the contraction of the vein was blocked.²⁹ Using the same procedure it was demonstrated that platelets were also essential.³⁰ It was shown that plasma, serum or platelets alone could not produce the response. Using heparinized whole blood as the perfusing solution, it was also shown that this response could be blocked by tripeleptamine hydrochloride and diphenhydramine hydrochloride, both antihistamines.³⁰ If the antihistamines were added to the solution after the vessel began to contract, the response was decreased 35 to 70 per cent of the maximum increase in tension. It was also shown that the plasma or serum factor was dialyzable and had a molecular weight between 10,000 and 20,000.³⁰

For some time histamine has been thought of as the "shock" toxin producing the vascular response of the organism to endotoxin. It was demonstrated in 1947 that the injection of meningococcal endotoxin into rabbits produced a decrease in the level of blood histamine and an increase in the liver and mus-

cle content of histamine.³¹ Corroborating evidence was presented by Hinshaw, *et al.*³² They showed that within two minutes after endotoxin administration there was a marked decrease in whole blood histamine levels and an increase in plasma histamine levels which remained increased. The whole blood histamine level gradually returned to pre-endotoxin levels. There was also an increased peripheral vascular responsiveness to histamine.³²

Schayer demonstrated that histidine decarboxylase activity was increased by stress, injection of epinephrine and norepinephrine and endotoxin.³³ It was shown that endotoxin increased histidine decarboxylase activity in lung and liver tissue by three to nine times.³⁴ He advanced the hypothesis that circulatory homeostasis was dependent on a relationship between circulatory histamine and epinephrine, and that if either shifted, the result was failure of circulatory homeostasis and resultant shock.³³ If one allows the hypothesis and remembers the pharmacological activity of histamine, an arteriolar dilator and venous constrictor, and epinephrine, a potent arteriolar constrictor, the hypothesis provides a reasonable explanation for the sequence of events which are observed in the small vessels during development of endotoxin shock.³⁴

1. Period of hyper-reactivity and vasoconstriction in response to epinephrine,
2. Small vessels gradually lose responsiveness to epinephrine,
3. Vessels become hyporeactive to epinephrine,
4. Vessels become refractory to epinephrine,
5. Circulatory collapse.

Further evidence to support this hypothesis has been brought forth by Hinshaw, *et al.*³⁵ in that during the period of hypotension there were simultaneous increases in blood histamine levels, the histamine-histidine ratio and circulating hematocrit. In another study comparing histamine, a histamine releaser (40/80) and endotoxin on dogs, results indicated a similarity of action in a number of vascular parameters:³⁵

1. Early increase in portal venous pressure coincident with a decrease in venous return and rapid decrease in systemic arterial pressure.
2. Eventual increase in foreleg resistance, foreleg small vein pressure, leg weight and circulating hematocrit.

To make Schayer's hypothesis more convincing is work done on primates which showed that all monkeys had a significant increase in blood histidine levels and large increases in histamine levels which became apparent within the first hour.³⁷ As has been stated before there is a gradual decline in blood pressure in monkeys which may be accounted for by the large increase of histamine by its action on peripheral vasculature to effect a decrease in total peripheral resistance.

SUMMARY

An attempt has been made to bring out the clinical picture of endotoxin shock with its species differences and the circulatory responses associated with the injection of endotoxin so that one can become familiar with the problem and approach its therapy with knowledge of its pathogenesis and pathophysiology. It is only by this knowledge that one can hope to decrease the mortality rate of endotoxin shock. The concept that adrenal secretory failure accompanied this syndrome, which has been maintained through the years, was shown to be a fallacy, as was the concept that endotoxin had its primary effect on the central nervous system.

Evidence is given which demonstrates that a dialyzable, heat labile serum factor with a molecular weight between 10,000 and 20,000, along with platelets, is required to react with endotoxin to form the active substance that causes the vascular response *in vitro*. The active substance is blocked by antihistamines in its activity, implying that it is either histamine or a histamine-like substance released by a reaction between the above named constituents. This data and the supporting data of others seem to make the hypothesis advanced by Schayer, an excellent working hypothesis, namely that an imbalance between histamine and epinephrine during intense

stress may lead to failure of circulatory homeostasis and then to shock. □

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WELL-INSURED

More than 151 million Americans were protected against the costs of illness through health insurance programs in 1964. Over-all, in excess of 1,900 insuring organizations provided coverage, including 972 insurance companies, 77 Blue Cross and 75 Blue Shield Plans, and 800 other plans such as industrial, community, consumer-sponsored, private group clinics, and college health plans. Total benefits paid come to \$8.7 billion. Oklahoma is one of 20 states having more than 75 per cent of its civilian population protected by some form of voluntary health insurance.

ABSTRACTS

IMMUNOLOGIC TOLERANCE: BASIC CONSIDERATIONS AND CLINICAL APPLICATIONS

The term immunologic tolerance refers to an animal's ability to encounter an antigenic material without initiating an antibody response to the antigen. Work on this problem has been accelerated by the interest in organ transplants.

In this review the author notes some of the early work on immune tolerance such as the occurrence of two red blood cell populations in dizygotic cattle twins reported by Owen in 1945 and Medawar's production of homograft tolerance by in utero exposure of antigens. He discusses the thymus as the source of immunologically competent cells during fetal development and some of the main features of Burnet's clonal theory of antibody production. Burnet's theory is used to explain the fact that the animal does not react immunologically against its own cells and will become tolerant to foreign antigens if injected at the proper time in fetal or early post natal life.

At present there appear to be two possible solutions to the immunologic problem of organ transplantation. The first is specific modification of the immune response of the adult recipient. The second involves pretreatment of the infant or embryo to enable it to accept tissues or organs at a later time. Steps involved in the first approach are the identification and isolation of the antigen or antigens responsible for the rejection of the graft and the mild alteration of the immunologic apparatus involved in the response to these antigens. The second approach has been accomplished in animals but has obvious difficulties in humans. It would require the subject to be made tolerant to antigens at an early time and then have organs available later with the exact antigens to which the subject was tolerant.

EDITOR'S NOTE: Obviously we do not yet have the answer for organ transplantation. Possibly artificial organs will be a partial answer. In any case we continue to learn more and more about the normal and abnormal immune mechanisms of the body. We look forward to truly revolutionary discoveries in the not too distant future.

Immunologic Tolerance: Basic Considerations and Clinical Applications, Richard Hyde, Ph.D., Missouri Med. Vol. 62: 123-126, Feb. 1965.

UNEXPLAINED DEATH

Nearly 100 years ago it was realized that ducks, seals and other air-breathing aquatic animals must have either some way of storing oxygen or of drastically reducing its consumption in order to remain under water for prolonged periods without suffering asphyxia. It was presently learned that when the faces of these animals were immersed, a reflex mechanism for conserving oxygen came into play: There was marked slowing of the heart, increased arterial pressure, and

a decreased blood flow to the skin and viscera. This "dive reflex" has been found to occur in man, and also may be induced by simply placing the face in water. In some instances not only bradycardia may develop, but various arrhythmias as well. It has also been shown that this reflex can be augmented or inhibited by the higher cerebral centers. Inasmuch as the coronary vessels and the myocardium are well supplied with afferent nerve endings, it is reasonable to suppose that an injured myocardium might trigger an eruption of impulses in these nerves, which in turn could set in motion an appropriate mechanism to conserve oxygen; a mechanism similar to the dive reflex. And it is also possible this reflex too vigorously stimulated might result in arrhythmias or cardiac standstill. That this may indeed be the case is suggested by experiments in which the coronary arteries of dogs have been ligated. Dogs which have had these afferent nerve pathways severed have a greater chance of survival than do those in which the pathways are intact.

REVIEWER'S NOTE: Although the author presents only gossamer strands of data and an idea which have yet to be spun into connected fact, the concept is nevertheless imaginative and intriguing. On occasion all of us have wondered just what went wrong when a coronary patient expired suddenly and without warning. Few, however, have ventured into such a seemingly remote territory to search for the answer.

The Bradycardia of the Dive Reflex—A Possible Mechanism of Sudden Death. Stewart Wolf. Transactions of the American Clinical and Climatological Association. 72: 192-200 (June) 1965.

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BOOKS AS CLINICAL TOOLS

"As the calorimeter tells the activity of the patient's metabolism, so may you determine the plus or minus activity of the local profession in any district by the condition of its library. And no less well may one gauge the quality of a medical school, of a hospital, of a laboratory, of the individual doctor himself, by the same standard."

—Harvey Cushing

Is your personal library really adequate?

To an ever-increasing extent the physician's competence and the quality of medical care will depend on the capacity of the doctor to mobilize information quickly and effectively. In fact, the most important aspect of undergraduate medical education is probably no longer the teaching of facts and principles although this is still quite important. Rather the primary goal of medical education will be transferring the burden of education to the student himself, teaching him how to learn, how to mobilize information, and how to solve clinical problems. Probably the most important channel through which continuing education occurs is that self-education relating directly to the patient at hand. Thus both the quality of care and the physician's continuing education are to a considerable degree determined by his response to the academic challenges which occur day after day in the form of sick patients.

Ideally all the applicable knowledge which has been developed by medical science should be brought to bear on every clinical problem to which it relates. We can only try to approach this optimum without expecting to achieve it but we do need to pursue this objective more systematically. Because a physician can now learn only a modest portion of all that knowledge which is potentially applicable in his practice, superior competence depends not only on his knowledge, but the speed and effectiveness with which he can obtain supplemental information of rele-

vance to his clinical problems. The National Library of Medicine has under consideration various schemes for providing information to the physician but at least for the present the physician's most useful instrument for this purpose is his own library. Plans of our own Medical Center include a truly modern medical library. This resource will be much more than a large collection of books and journals. One of its principal functions would be to serve as a source of rapidly retrievable information for the physicians of the State. Yet in the immediate future the source of information of greatest potential value will continue to be the doctor's personal library. Nothing would do more to improve the quality of medical care than improving physician's personal libraries and their ability to use them.

We have developed a very small and relatively inexpensive library in the Department of Continuing Education to be used by the students and physicians who are caring for patients. This "Clinical Scholarship Unit" is not designed to replace the larger libraries in the Center but is used in teaching students and physicians the clinical potentialities of a small collection of key references located in an area immediately adjacent to the patients. The list of books below is quite similar to the collection which constitutes our own unit designed to demonstrate the practical importance of patient-related scholarship. It is, of course, not feasible to provide a single list of reference books which would be appropriate for all physicians. I do believe the list below would be an excellent personal library for the general physician. The specialist could, of course, readily identify those books on the list which would be of limited utility in his specialty. These are not the only key clinical references; in many cases other books would be equally useful and all physicians will require some additional books which are not in this group. But this collection does represent rather a comprehensive spectrum of excellent clinical references. A collection of this kind would also be useful as a reference unit for a small hospital or for a group of physicians. *The total cost of such a library is less than that of most major sur-*

gical procedures and the yearly costs of updating such a collection would be far less than this.—*Kelly M. West, M.D., Professor of Continuing Education, University of Oklahoma Medical Center.* □

A LIBRARY FOR THE PHYSICIAN'S OFFICE

Reference Books

Bibliography of Medical Reviews, Vol. 9, \$1.00 (issued each year, lists review articles by subject) National Library of Medicine, Bethesda, Md., 1964.

Current Medical References, 3rd ed., \$5.00, Chatton, M. J. and Sanazaro, P. J., (lists recent review articles on clinical subjects), Lange Medical Publications, Los Altos, Calif., 1965.

Cumulated Index Medicus (we suggest starting by purchasing only the volumes for the most recent year, in this case, 1964) about \$40.00 per year, compiled by the National Library of Medicine, published by the American Medical Association, Chicago.

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Dripps, R. F., Eckenhoff, J. E. and Vandam, L. D.: Introduction to Anesthesiology, 2nd ed., \$8.00, W. B. Saunders Co., Philadelphia, 1961.

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Dermatology:

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Books / WEST

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UTILIZATION REVIEW CONFERENCE

The dynamics of hospital utilization review programs will be discussed in depth at the Seventh Annual Medical Services Conference entitled "Medical Staff in Action—1965, Utilization Review."

The one-day meeting sponsored by the AMA Council on Medical Service and its Committee on Medical Facilities will be held from 9 a.m. to 4:30 p.m., November 27th in the Bellevue-Stratford Hotel, Philadelphia. The Saturday conference will immediately precede the AMA's 19th Clinical Convention.

Arthur E. Hess, Washington, D.C., director of the Bureau of Disability and Health Insurance of the Social Security Administration (Medicare), will discuss statutory responsibilities specifically assigned to HEW and the responsibilities delegated to state agencies, providers of services, intermediaries, etc.

A description of current utilization review programs of hospitals, medical societies and third parties will be presented by: J. Everett McClenahan, M.D., McKeesport, Pennsylvania, medical director of McKeesport Hospital and past-president of the Allegheny County Medical Society and the Pittsburgh Academy of Medicine; Howard Hassard, San Francisco, executive director of the California Medical Association; and James M. Ensign, Chicago, Illinois, director of professional relations of the Blue Cross

Association.

The afternoon session will open with a description of the total organizational structure essential for an effective hospital utilization program by John M. Danielson, executive vice-president, Evanston Hospital, Evanston, Illinois.

Vergil N. Slee, Ann Arbor, Michigan, director of the Commission on Professional and Hospital Activities will then describe systematic methods of data gathering and the need for measurement tools in any utilization review program.

A presentation of three varied approaches to appraisal of utilization—relating use to the expert opinions of physician-surveyors; relating use to pre-established criteria; relating use to group norms or profiles, will be given by Carmen Cristo, M.D., Rochester, New York, chairman of Monroe County, New York Medical Society's Coordinating Committee on Utilization; Beverly C. Payne, M.D., Ann Arbor, Michigan, research associate of the University of Michigan Study of Hospital and Medical Economics and medical staff member of the Board of Directors and chairman of the Committee on Medical Affairs of the Massachusetts Hospital Service (Blue Cross).

For pre-registration write to: American Medical Association, Department of Hospitals and Medical Facilities, 535 North Dearborn, Chicago, Illinois 60610. □

Anomalous Origin of A Coronary Artery From the Pulmonary Artery

Report of A Typical Case

CHARLES W. CATHEY, M.D.

An eight-month-old boy was admitted to Presbyterian Hospital on August 19, 1963. The child had done well until age four months when the mother noted rapid respiration and occasional wheezing. At times while eating the child would appear to have pain, turn pale and perspire, and have increasing shortness of breath. He failed to gain weight and became increasingly more irritable. There was no history of cyanosis or edema.

Physical examination revealed an irritable, acyanotic child. Respirations were rapid and shallow; rhonchi and wheezes were present in both lungs. The heart was enlarged and no murmurs were heard. The liver was palpated two fingerbreadths below the right costal margin. Femoral pulses were present. Roentgenograms of the chest showed marked cardiac enlargement particularly of the left atrium and left ventricle (figures 1 and 2). The pulmonary vascularity was moderately increased. An electrocardiogram revealed a prominent Q wave in leads I, AVL, V-5, V-6 and V-B. There was slight positive ST displacement with T-wave inversion in V-5 through V-B (figure 3).

Angiocardiography with injection of contrast media into the ascending aorta revealed

the right coronary artery arising from the aorta. The right coronary artery filled large collateral vessels and the left coronary artery filled from these collateral vessels and contrast material drained into the pulmonary artery.

The child developed cardiac arrest during thoracotomy before the anomalous left coronary artery could be isolated or ligated. Resuscitation was unsuccessful and the child died in the operating room.

An anomalous origin of the left coronary artery from the proximal portion of the pulmonary artery was found at post mortem examination. There was marked left ventricu-

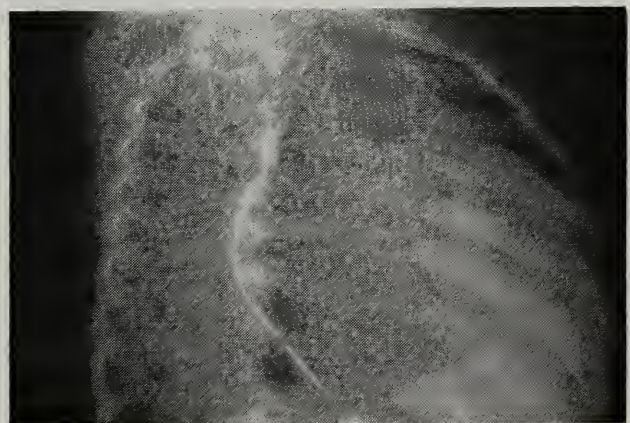


Figure 1. Evidence of a dilated left atrium was revealed by this barium swallow.

From the Medicine Department, Oklahoma City Clinic.
Produced under the auspices of the Professional Education
Committee of the Oklahoma State Heart Association.

lar hypertrophy and dilatation. Myocardial infarcts were present.

DISCUSSION

Although either the left or right coronary artery or both may arise anomalously from the pulmonary artery, an anomalous origin of the left coronary artery is much more common than the right. The "infant" type is being recognized with increased frequency during life and should be suspected in an infant with electrocardiographic evidence of myocardial infarction.¹ Severe cardiac symptoms usually appear very early in life. Symptoms may include failure to thrive or dyspnea, but frequently irritability, episodic sweating, pallor, and apparent pain predominate. Presumably, the latter symptoms are the manifestations of angina pectoris.

Physical examination usually reveals marked cardiomegaly, signs of heart failure, and absent or inconspicuous heart murmurs. Occasionally, cyanosis is present.

The electrocardiogram usually, but not always, shows signs of left ventricular infarction and left ventricular hypertrophy.² Chest roentgenography shows cardiac enlargement with the left ventricle being the predominant chamber. The left atrium is frequently di-

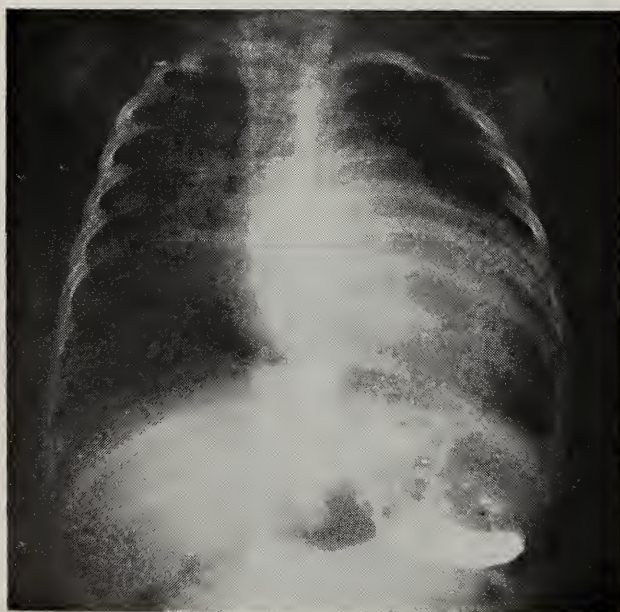


Figure 2. A double-contour indicating the presence of an enlarged left atrium accompanying the generalized cardiomegaly was revealed by this PA film.

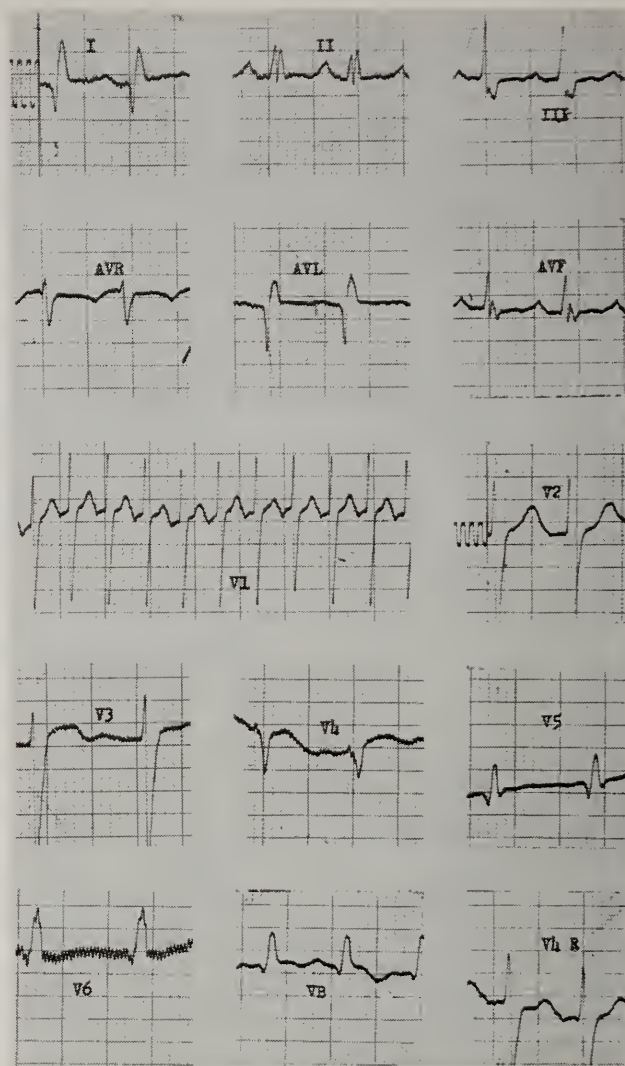


Figure 3. A standard ECG revealed large Q deflections in I, AVL, V-5, V-6 and V-8. In addition, there was slight upward displacement of the ST-segments with flat to inverted T-waves.

lated. Cardiac fluoroscopy shows poor cardiac pulsations.

The diagnosis of anomalous origin of the left coronary artery from the pulmonary artery can be suspected from the history, roentgenogram, and electrocardiogram. Positive confirmation of the diagnosis, however, requires the visual demonstration of the anomalous origin of the coronary artery by angiographic techniques. Retrograde flow of blood from the left coronary artery into the pulmonary artery often can be demonstrated by this method.

Since the left coronary artery originates from the pulmonary artery at the time of birth, it supplies portions of the myocardium with venous blood at pulmonary pressures. During the neonatal period, due to relatively

high pulmonary artery pressure, this situation is frequently adequate to supply basic myocardial needs.

With time, pulmonary artery pressures assume lower levels and because of collateral flow supplying blood at systemic pressures the aberrant coronary artery begins to conduct blood in a retrograde manner back toward the pulmonary artery.³ Thus, in this situation, not only does the left coronary artery fail to supply the myocardium adequately, it actually siphons away much of the collateral blood supplied by the right coronary artery. It, therefore, may act as a left-to-right shunt.

Of great physiologic consequence is the low level of pressure in the aberrant coronary artery, which cannot be maintained significantly above pulmonary artery pressure and as a consequence myocardial ischemia and infarction usually occur. The resultant low pressure in the aberrant coronary artery and its branches is the most detrimental physiologic consequence of this arrangement. Thus it seems reasonable, and has been

shown, that simple ligation of the aberrant coronary artery may effect improvement in those patients where retrograde flow in the left coronary artery is demonstrated.⁵

Several entities may mimic aberrant left coronary. These are: Endocardial fibroelastosis, myocarditis, von Gierke's disease of the heart, and medial necrosis of a coronary artery. Because of its relative frequency endocardial fibroelastosis is the major problem in differential diagnosis. Since aberrant left coronary artery may be amenable to surgical correction it is of more than academic interest to establish this differentiation.⁴ □

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MEDICAL MISCELLANY

- The new Medicare law provides payment for such medicines as Bugle weed, Black Widow Spider mixture, Skunk Poison and Mexican Peyote.

- Mrs. Lucille Swearingen, Bartlesville, was re-elected speaker of the House of Delegates of the American Association of Medical Assistants during the organization's October 12th-17th convention in New York. A past-president and vice-president of AAMA, Mrs. Swearingen is also a past-president of the Oklahoma State Medical Assistants Society.

- Alcohol involves the partial or complete incapacitation of an estimated five million Americans, or one hundred times the estimated number of drug addicts, according to a 1962 government report.

- Oklahoma's Attorney General has ruled that hospital pharmacies may be inspected and controlled by the State Board of Pharmacy, and that drugs must be dispensed under direct supervision of physicians.

Medicare Policy Statement Approved by House of Delegates

At a special called meeting of the Oklahoma State Medical Association's House of Delegates on October 24th in Oklahoma City, Delegates approved with minor modifications the policy statement on the Medicare law developed by the Council on Public Policy.

The statement, accepted in lieu of two more strongly worded resolutions, advises physicians of their individual rights under the legislation, and sets down specific conditions governing the medical profession's role in relationship to Public Law 89-97.

Related story on page 523.

Oklahoma physicians will neither be encouraged nor discouraged with regard to their individual choice of participating or not participating in the controversial health care program for all persons over age 65. However, for those physicians who elect to participate, the policy statement called for the appointment of a seven-member "Medicare Committee" whose function will be the selection of a fiscal intermediary to handle physicians' claims in Oklahoma, as well as to develop a method of compensation for professional services which will assure the payment of fair and reasonable fees.

The compensation plan, according to the policy statement, will be re-submitted to the House of Delegates before final action is taken. To provide full opportunity for all special interest groups to be heard in the establishment of a fair and reasonable compensation plan, the approved statement requires the creation of an Advisory Group to the Medicare Committee, such group to be comprised of representatives of

specialty societies, the Academy of General Practice, and the chairmen of various association committees which have parallel interests.

In the meantime, the Department of Public Welfare advised the medical profession that the department's planned implementation of Title XIX of the Medicare law will place it in the financial position to commence payment to physicians for the care of crippled children in January, 1966, as well as to pay 100 per cent of the present professional fee schedule for medical and surgical benefits for the department's adult beneficiaries. Moreover, it is expected that welfare payments for professional services will increase again in July of 1966 to conform to the Medicare compensation plan (Title XVIII of P.L. 89-97) to be negotiated between the OSMA Medicare Committee and the Social Security Administration.

The House of Delegates also ratified the policy position taken by the American Medical Association's House of Delegates on October 3rd (see *October Journal*) which was quite similar to the OSMA statement of policy.

Committee Appointment

OSMA President Rex E. Kenyon, M.D., lost no time in implementing the House of Delegates directive to appoint a Medicare Committee and Advisory Group. The presidents of specialty societies and the Academy of General Practice have been contacted to appoint their own representatives to the Advisory Group, and Doctor Kenyon, with the approval of the OSMA Board of Trustees, has named the following individuals to serve on the Medicare Committee: Scott Hendren, M.D., Oklahoma City, Chairman; Robert L. Loftin, M.D., Broken Bow; Maxwell A. Johnson,

M.D., Tulsa; Francis A. Davis, M.D., Shawnee; E. M. Gullatt, M.D., Ada; Joe L. Duer, M.D., Woodward; and Donald L. Brawner, M.D., Tulsa.

The Medicare Committee is now scheduling a series of meetings, and the medical profession in Oklahoma will be kept advised of developments regarding the issuance of federal regulations (which are not available at the present time) and of the committee's progress.

Below is the full text of the House of Delegate's policy statement.

POLICY STATEMENT: PUBLIC LAW 89-97

OKLAHOMA STATE MEDICAL ASSOCIATION

Preamble

The Oklahoma State Medical Association remains steadfastly opposed to the Medicare Law, P.L. 89-97.

—It rejects the principle of providing tax-paid benefits to an entire segment of the American population without regard to the taxpayer's ability to pay and without concern for the variable financial needs of the beneficiaries.

—It condemns the regulatory practices created by P.L. 89-97, practices which will not only stifle individual and professional freedom, but—through confused multi-agency governmental controls—will promote a new administrative complex at the expense of quality patient care.

—It opposes the precedent embodied in P.L. 89-97 which, by design, creates a mechanism for expansion to include other segments of society under a program of regimented government medical care.

—It deplores the gross waste of tax funds to provide health care benefits on the arbitrary basis of age to millions of financially independent persons who are now able and willing to provide their own protection against the costs of illness.

—It resents implications that elderly citizens of the United States have been deprived of needed medical services, or that acceptable alternative plans have not been available to care for needy senior citizens.

The Oklahoma State Medical Association has consistently supported

—by words and by deeds—other programs which would have provided more equitable health care benefits to elderly persons who truly need financial assistance in meeting the costs of illness.

—In 1957, the association assisted the Oklahoma Department of Public Welfare in preparing the initial program to care for recipients of Old Age Assistance, as provided in Public Law 84-880, and physicians voluntarily agreed to furnish professional services under this program at less-than-cost.

—In 1960, the association supported the Kerr-Mills Bill, later known as Public Law 86-778, which not only expanded the health benefit program for public assistance recipients, but also added a new category of elderly beneficiaries—those persons with incomes too high to qualify for public assistance, but too low to meet the costs of serious illness. Again, physicians began working at reduced compensation rates, and continue to do so today.

—From 1960 on, the association supported efforts by the American Medical Association to improve the Kerr-Mills program, but insufficient results were obtained from the United States Congress, and government agencies actually attempted to retard its successful implementation.

—As recently as this year, the association actively supported the Eldercare Bill, H.R. 3727, a program which would have provided superior health care benefits to the nation's elderly population without penalizing low-income taxpayers. This proposal was not even granted a fair hearing by the U.S. Congress, although it attracted overwhelming and unprecedented support from the American people.

The advice and counsel of the medical profession has not been sufficiently sought by government planners, and when tendered voluntarily it has been too often summarily disregarded. In approving major legislation affecting the health of the people, the U.S. Congress has been guided by forces which are foreign to the only group expert in the care of the sick—the medical profession.

Physicians are not insensitive to human needs, but a serious disagreement exists regarding the judicious utilization of tax-funded programs. Physicians are not inexperienced in the discharge of humanitarian responsibilities. The honored tradition of the medical profession to treat the sick, regardless of ability to pay, antedates any governmental activity in the field of health care. In recent years, most constructive efforts by the medical profession to assist elderly persons with health care costs have been swept aside without reasonable consideration, and even without gratitude for the millions of dollars in services contributed by the profession through personal charity and through physician-subsidy of the underfinanced health care programs initiated by Public Law 84-880 and Public Law 86-778.

It is from this vantage point that the Oklahoma State Medical Association now views the unfortunate political product which has resulted from years of controversial deliberation, Public Law 89-97. This Federal law not only represents imperfect legislation of gross magnitude, but it also establishes principles which unnecessarily inject the government into the lives of patients and physicians.

The development of P.L. 89-97 reflects discredit upon the democratic processes of the country. Restraints and controls placed upon the medical profession, the threat to quality medical care, the Federal regimentation of 19 million Americans, the compulsory tax burden imposed upon all working people, and the foreboding prospect of expansion and further governmental regulation of the health care industry are matters of deep concern to physicians and to all other citizens.

Physicians may observe deleterious laws without respecting them. In the instance of P.L. 89-97, the Oklahoma State Medical Association is dedicated to its eventual modification or repeal, and has an even greater responsibility to preserve high-quality health care standards for the people regardless of adverse conditions imposed through politics.

In addition, medical science must be protected from the unwarranted governmental invasion of meritorious professional principles and practices. The following conditions, interpretations, and recommended safeguards shall be the official public policy of the Oklahoma State Medical Association with regard to P.L. 89-97:

Policy Recommendations

1. *Physician-Patient Relationships:* Public Law 89-97 affects the legal, traditional and ethical concepts of the physician-patient relationships.

The association recognizes and supports the legal right of any individual physician, acting independently and not in concert with others, to decide for himself whether or not he chooses to accept any person as a patient who is a beneficiary under the program.

A physician must observe laws, but P.L. 89-97 does not require individual physician-participation:

a. He may decline to render medical services to persons covered by the "Health Insurance for the Aged Act."

b. He may choose to treat such persons without charge.

c. He may treat patients with the advance understanding that he will look to them exclusively for payment and that he will not participate in seeking government reimbursement for the cost of his services or associated services.

If an individual physician elects to participate, he may:

a. Take a direct assignment from the government's fiscal administrator, such assignment to conform to a government-approved method of compensation; or

b. Bill the patient directly for the services rendered, according to the physician's own fee schedule, and assist the patient in obtaining any government allowance toward the true cost of the professional services.

The individual right to decline participation in P.L. 89-97 must be conditioned by the observance of established ethical principles which relate to the circumstances in each case.

(Continued on Page 521)

BEVERLY HILLS HOSPITAL BEVERLY HILLS CLINIC

CONTEMPORARY PSYCHIATRY

INPATIENT
OUTPATIENT

DALLAS, TEXAS
FE 1-8331

a. j. schwenkenberg, m. d.
joseph l. knapp, m. d.
jackson h. speegle, m. d.
fred h. jordan, m. d.
joseph h. lindsay, m. d.
john t. holbrook, m. d.
traudl e. jordan-diener, ph. d.
william r. garretson, m. a.

2. *Hospital Admission Procedure:*

It shall be the policy of this association that no law should interfere with the independent professional judgment of the physician regarding the decision to authorize hospitalization only on the basis of medical need. Current practices and customary procedures with respect to certification for hospital admission and care must be continued under P.L. 89-97.

3. *Value of Professional Services:*

The value of medical services shall be determined by the seller and not by the purchaser.

Those physicians who do not wish to participate in P.L. 89-97 may properly reserve the right to establish the value of their own services. Neither the Oklahoma State Medical Association nor the government or its agents should violate this individual right.

As a service to those physicians who wish to participate, and recognizing the requirement for a method of compensation as imposed by the law, the Oklahoma State Medical Association shall represent the medical profession in determining the value of professional services for participating physicians. In this instance, neither the government nor its agents shall determine the value of professional services.

The development of a financial arrangement by the association on behalf of participating physicians shall in no way be binding upon those who elect not to participate.

Furthermore, the participation of the association in this manner shall not constitute any direct, indirect, or implied endorsement of P.L. 89-97.

4. *Non-Interference:* The provisions of P.L. 89-97 proscribe against governmental interference in the practice of medicine. This principle shall be rigidly supported by the Oklahoma State Medical Association, and any attempt to modify the traditional physician-patient relationship, to violate the patient's right to privacy, or to impair the physician's professional judgment shall be vigorously opposed.

5. *Utilization Review:* Primary responsibility for patient care rests with the attending physician, and this obvious fact must not be altered in any fashion by the requirement of P.L. 89-97 to create a utilization review committee in every participating hospital.

Utilization review committees have previously been employed on a voluntary basis by hospital medical staffs for disciplinary and educational purposes, and it is not the purpose of such committees to engage in patient care or to be responsible to any group outside the confines of the specific hospital.

Such committees may be created by the medical staffs of hospitals which wish to participate in P.L. 89-97, but the aforementioned principles should not be violated, nor should such committees be comprised of anyone other than practicing physicians.

6. *Separation of Professional Fees and Hospital Charges:* Hospital-based medical specialists are engaged in the practice of medicine. The fees for the services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed, and collected in the same manner by the medical specialist as are the fees of other physicians.

7. *Title 19:* P.L. 89-97 contains, in addition to the "Medicare" program for Social Security beneficiaries, a vastly-expanded health care program for public assistance recipients of all ages. It shall be the policy of the Oklahoma State Medical Association that uniform attitudes shall apply to both the Title 19 provisions and to the Medicare provisions of P.L. 89-97, to include the aforementioned policy, and the preservation of professional judgment and independence.

8. *Fiscal Intermediary:* It is recommended by the Oklahoma State Medical Association that its Medicare Committee negotiate the administrative intermediary for the "Health Insurance for the Aged Act," and for Title 19 of P.L. 89-97. Any fiscal agent (including Blue

Shield) chosen must support and agree with this policy statement.

9. *Expansion of Program:* Any application of the principle of Social Security health care to other segments of the American population shall cause the Oklahoma State Medical Association to rescind any prior arrangements involving the existing program and to completely reconsider its official position.

Any abridgment of the foregoing policy statements shall likewise necessitate a complete reconsideration of the official position of this association.

10. *Indemnification:* P.L. 89-97, by its design, invites gross abuse and burgeoning cost. The medical profession has repeatedly warned against fiscal irresponsibility inherent in the program and cannot, therefore, be responsible for any subsequent financial distress of the program which will most probably occur.

Implementation

The president of the Oklahoma State Medical Association shall immediately create a special committee, as a division of the Council on Socio-Economic Activities, to act on behalf of the medical profession for the implementation of P.L. 89-97 in accordance with the terms prescribed by this statement of policy.

The committee's activities shall include, but shall not be limited to, the development of a fair and reasonable method of compensation for physicians who elect to participate in P.L. 89-97. Any proposal must include the mandatory provision for annual review.

A specific, detailed program for implementation should be completed before January 1, 1966, and upon its completion, a special session of the House of Delegates shall be called to officially consider the committee's report.

Upon implementing a program, the committee shall remain as a special committee of the association, to be re-appointed annually. It shall be responsible for continuing negotiations with government agencies and with the administrative agency re-

garding all matters germane to the Medicare Law, and shall report at each meeting of the association's Board of Trustees and House of Delegates.

In addition, it shall coordinate its work closely with the Council on Public Policy regarding efforts to modify or repeal P.L. 89-97, and with the Public Welfare Committee and the Dependents' Medical Care Committee concerning the uniform application of compensation principles to other governmentally-sponsored health care programs. In developing a method of compensation for the Medicare Law, it shall seek the advice and assistance of the Prepaid Medical Care Committee.

The special committee shall be appointed and comprised of seven well-qualified representatives, and an advisory group shall be constituted representing each specialty organization, the Academy of General Practice, and the chairmen of various association councils and committees which have parallel interests. □



Three Tulsa Physicians Honored

Three veteran Tulsa physicians are shown as they receive certificates of Life Membership in the Oklahoma State Medical Association. Making the presentation is Rex E. Kenyon, M.D., (left) of Oklahoma City, OSMA President. From left to right: Henry S. Browne, M.D., Arthur H. Davis, M.D., and John C. Perry, M.D. The presentations were made in ceremonies at the October 11th meeting of the Tulsa County Medical Society.

Doctor Browne, a urologist, and Doctor Perry, a general surgeon, retired last year. Doctor Davis is an eye, ear, nose and throat specialist.

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New OSMA Bylaws Approved by Delegates

OSMA'S House of Delegates approved a completely revised Bylaws for the association on October 24th, but delayed its implementation until next May when the House will consider corresponding amendments to the OSMA Constitution.

Below are the major changes in the new Bylaws as compared to the existing document, chapter by chapter.

CHAPTER 1: MEMBERSHIP

The present *membership classifications* are: Active, Honorary-Life, Junior, Associate, and Special Service. Under the revised bylaws, these classifications are changed to: Active, Active Dues-Exempt, Life, Junior, and Affiliate.

Life members have been given full rights and privileges, in order to qualify them in the determination of OSMA representation in the AMA House of Delegates.

The existing bylaws give the Board of Trustees authority to cancel the membership of a physician whose *narcotic permit* has been revoked or surrendered because of *proved violation* of law. The new bylaws give this authority when the physician's permit has been revoked, suspended, or surrendered as a result of unprofessional conduct.

CHAPTER II: DUES

The applicability of *complete and partial dues exemption* for the various classifications of membership has been precisely stated in the new bylaws, whereas the existing bylaws are vague on this subject.

New language is included regarding the approval of *special assessments* and their collection. The existing bylaws did not provide exact instructions regarding due dates and penalties for non-payment.

CHAPTER III: ANNUAL MEETING

The responsibility for setting *annual meeting dates* has been transferred from the president, president-elect and secretary-treasurer to the Annual Meeting Committee. However, the Board of Trustees must approve the dates selected.



Pictured right, George H. Garrison, M.D., Oklahoma City, Chairman of the Oklahoma State Medical Association's Constitution and Bylaws Committee, is shown as he discussed proposed changes in the association's bylaws before the OSMA House of Delegates. Standing at Doctor Garrison's right is C. M. Hodgson, M.D., Kingfisher, Speaker of the House.

The Annual Meeting Committee, established in Chapter X as a standing committee, is granted *authority to plan and conduct* the scientific program. In the existing bylaws, the Annual Meeting Committee was comprised of the president, president-elect, and secretary-treasurer, and the scientific program was the responsibility of the Scientific Works Committee.

CHAPTER IV: HOUSE OF DELEGATES

Association membership for a period of *two years* or more is a prerequisite for election to the OSMA House of Delegates.

In the new bylaws, a *simple majority* shall constitute a quorum at *special or annual meetings* of the House of Delegates. The existing bylaws provide for a majority at the annual meeting and for one-third of the delegates to be present at a special meeting.

The *Credentials Committee*, which is presently a Standing Committee, has been moved to Chapter IV as a committee of the House of Delegates.

Regarding the election of *Delegates to the AMA*, the present bylaws provide that if a Delegate or Alternate dies, resigns or fails to qualify, the President, with the approval of the Board of Trustees, shall appoint a successor to serve until the next meeting of the House of Delegates, at which time a successor shall be elected for the unexpired term. This feature of the existing bylaws is in conflict with the constitution.

Davis, Thomas Named

Due to the October 3rd resignation of Wilkie D. Hoover, M.D., Tulsa, as one of the two Oklahoma State Medical Association Delegates to the AMA, Alternate Delegate Francis A. Davis, M.D., Shawnee, acceded to the Delegate position. Doctor Davis' former post was filled on October 24th when the OSMA House of Delegates elected OSMA past-president Harlan Thomas, M.D., Tulsa, to the position of Alternate Delegate.

Oklahoma's other Delegate to the AMA is Malcom E. Phelps, M.D., El Reno, and his Alternate Delegate is Thomas C. Points, M.D., Oklahoma City.

In the new bylaws, the Alternate Delegate automatically accedes to the position of Delegate, and the President is authorized to appoint a successor for the vacated position of Alternate Delegate, who shall serve until the next annual meeting, at which time a successor shall be elected.

The new bylaws are compatible with the constitution.

The *composition of the House of Delegates* has been adjusted to reflect the recommended reduction in the Board of Trustees from 41 persons to 16 persons. In addition, the size of the House of Delegates is reduced by the recommended reduction in the number of general officers, from 13 to eight.

Under the proposed bylaws, the House of Delegates would be comprised of Delegates elected from county medical societies (one per 25 members or fraction thereof), the 16-man Board of Trustees, the eight general officers of the association, and the Delegates and Alternate Delegates to the AMA.

CHAPTER V: BOARD OF TRUSTEES

The present bylaws allow three *successive terms* of three years each for the Trustees. Under the revised bylaws, Trustees are limited to two *successive terms* of three years each.

The new bylaws require that the Trustee and Alternate Trustee from a district of more than one county shall *not be elected from the same county*.

The *quorum requirement*, now set at a majority for annual meetings and 15 for called meetings (out of 41), is adjusted in the revised bylaws to require a simple majority at all meetings.

The *presiding officer* of the Board of Trustees in the existing bylaws is the president. However, in the new bylaws, a new elective position of Chairman of the Board is created.

The *judicial authority* of the Board

of Trustees in the new by-laws is greatly clarified and expanded.

The *composition of the Board of Trustees* has been materially altered in the revised bylaws:

The present bylaws call for a Board of 41 *physicians*: 28 Trustees elected from 14 districts, and the 13 general officers.

The revised version reduces the size to 16 *physicians*, as follows: The Chairman of the Board, the President, and 14 Trustees elected to represent the Trustee Districts of the OSMA (Alternate Trustees shall be elected also, but shall serve only in the absence of their respective Trustees).

CHAPTER VI: ELECTION OF OFFICERS, TRUSTEES

The present bylaws which provide that nominations may be made in either the opening or closing sessions of the House of Delegates has been amended to provide that such *nominations can only be made in the opening session*.

It is provided in the new bylaws that a *vacancy in the position of Alternate Trustee* shall be filled by the appointment of the Board of Trustees, based upon nominations received from the presidents of the affected county societies. However, such appointments shall expire at the next annual meeting, where the House of Delegates shall elect a successor.

The remainder of Chapter VI remains basically unchanged, except that clarifying sections have been added concerning the officer and trustee positions available, the tenure of each position, the procedure for balloting, and the filling of interim vacancies.

CHAPTER VII: DUTIES OF OFFICERS

No material changes were made in this chapter, other than some rephrasing of job descriptions, and the addition of new sections governing the duties of the Chairman of the Board and the Immediate Past-President.

CHAPTER VIII: THE JOURNAL

No significant changes have been proposed in this chapter.

CHAPTER IX: COUNCILS

The name of the Council on Inter-professional Relations was changed to the *Council on Professional and Intervocational Relations*.

CHAPTER X: COMMITTEES

A *Committee on Planning* was added to the list of standing committees of the association.

A *Financial Aid to Education Committee* was added as a standing committee, such committee to also serve as the Board of Directors of the OSMA Loan and Scholarship Fund, Incorporated.

The present Annual Meeting Committee (comprised of the president, president-elect, and secretary-treasurer) and the Committee on Scientific Work have been replaced by a single *Annual Meeting Committee* which is comprised of at least six members, appointed for staggered tenures of three years each by the president and approved by the Board of Trustees.

The authority and methodology of the *Grievance Committee* has been clarified and strengthened.

CHAPTER XI: COMPONENT SOCIETIES

It is provided in the revised bylaws that the *general policy requires the maintenance of OSMA membership through the medical society of the county in which the member maintains his predominant medical practice*. The Board of Trustees is authorized to make exceptions to this rule for good and sufficient reasons.

Dual membership in county medical societies is prohibited unless specifically approved by the Board of Trustees. In such event, the physician will only be carried on the OSMA roster as a member of the county medical society of his predominant medical practice. Furthermore, it is provided that disciplinary action taken by one county society against a physician with dual county membership shall be binding upon the other county society and upon this association. □

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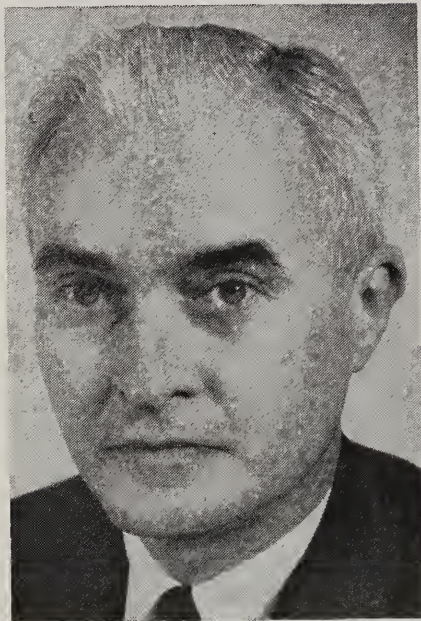
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Bird Named Associate Dean



Robert M. Bird, M.D., professor of medicine and physiology, has taken office as associate dean in charge of planning and development at the University of Oklahoma Medical Center.

The new position gives impetus to the formulation of plans for the proposed multi-million dollar Oklahoma Health Center with the present Medical Center complex as its nucleus.

Doctor Bird since March has been a special assistant to James L. Dennis, M.D., dean and director, coordinating the master plan program.

A faculty member since 1952, Doctor Bird moved up from associate professor to full professor in medicine and physiology, academic titles which he will retain. He also was vice-chairman of the Department of Medicine and as acting head during 1963-64 when Stewart Wolf, M.D., was on sabbatical.

Doctor Bird, a native of Charlottesville, Virginia, received the M.D. degree at the University of Virginia Medical School in 1939. He took his internship and residency training at The New York Hospital and was an assistant in medicine at Cornell University Medical College during the same period.

After four years service in the U.S. Army Medical Corps (New York

Hospital-Cornell Unit) with the Ninth General Hospital, he became a research associate in physiology at Cornell in 1946 and remained at Cornell, with faculty appointments in medicine and physiology, until he came to Oklahoma.

He is a diplomate of the American Board of Internal Medicine, a fellow of the American College of Physicians, a member of Alpha Omega Alpha, the Society of Sigma Xi and numerous other medical and research organizations. □

Cutter Heads Department Of Anesthesiology



James A. Cutter, M.D., has been appointed professor and head of the Department of Anesthesiology at the University of Oklahoma Medical Center, succeeding Joseph M. White, M.D., who earlier was given additional administrative responsibilities as associate director of the Medical Center.

Doctor Cutter originally joined the full-time faculty as associate professor and vice-chairman of the Department of Anesthesiology in 1961. A year later he was promoted to the rank of clinical professor and has served in that capacity the past three years while engaged in private practice in Oklahoma City.

An experienced medical educator and research worker, Doctor Cutter

held full-time academic appointments from 1957 to 1961 at the University of Buffalo School of Medicine.

An associate director of the department at Buffalo, he helped integrate the activities of his department into both the undergraduate and graduate divisions and also assisted in the inauguration of a three year course preparing graduate physicians to be medical educators.

During his four years in Oklahoma City, Doctor Cutter has served as a consultant to the State Department of Public Welfare, the Veterans Administration and the U.S. Department of Health, Education and Welfare.

He is a diplomate of the American Board of Anesthesiology and a fellow of the American College of Anesthesiologists. □

"Betsy Fund" To Aid Physicians

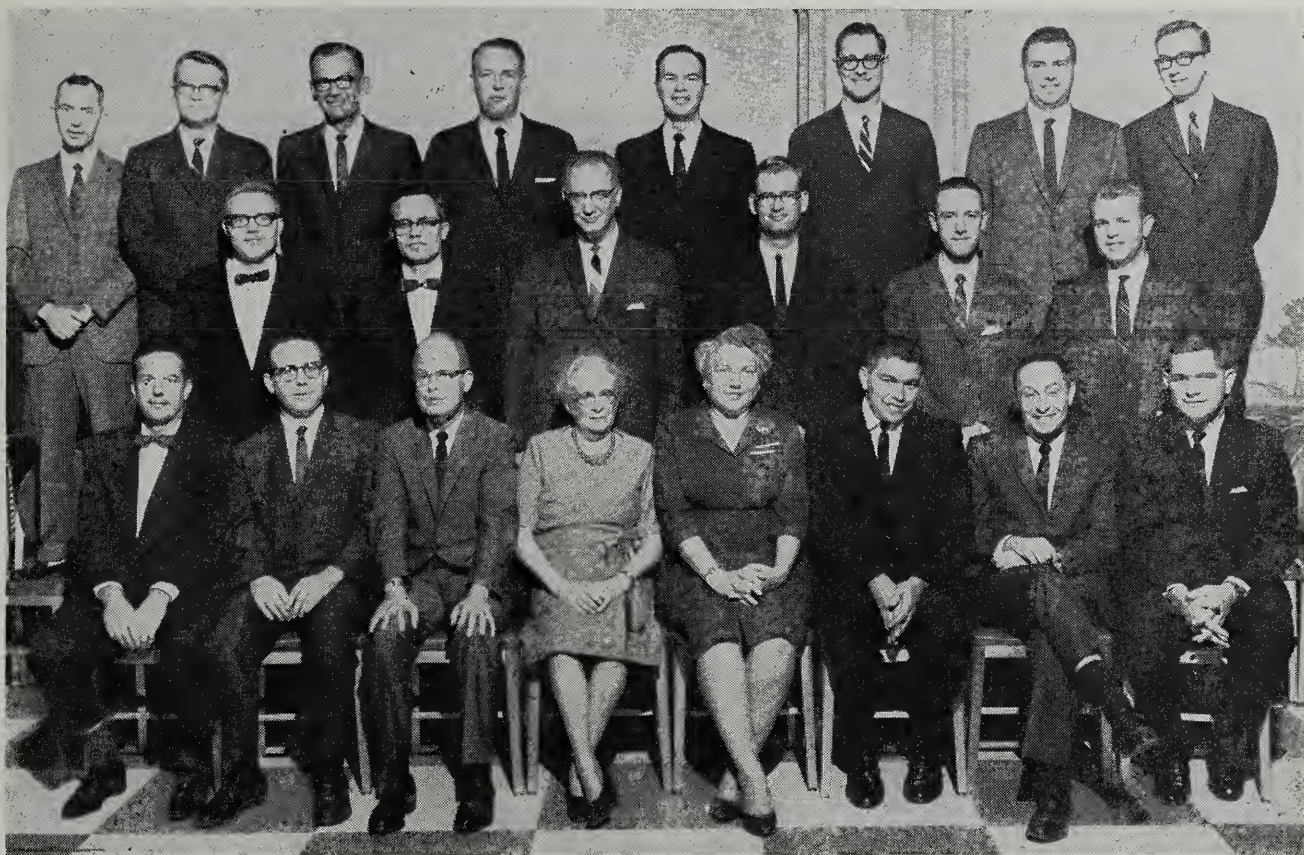
The Louisiana State Medical Society is soliciting contributions to a "Betsy Fund" to aid physicians whose offices and homes were totally destroyed by Hurricane Betsy.

According to Charles B. Odom, M.D., President of the society, word has already been received that three members of the group, who were residing in areas below New Orleans, were completely wiped out by the hurricane. The purpose of the "Betsy Fund" is to assist these physicians in getting re-established as quickly as possible. Flood losses, which caused the greatest damage to the offices and homes of these physicians, are not covered by insurance.

Because so many appeals have been made to assist the hurricane victims, the society decided to limit their help to the medical profession only. Doctor Odom pointed out that by assisting fellow physicians, they are also helping the stormstruck communities by restoring normal medical services.

All physicians are invited to contribute to the fund. Contributions should be made to the Louisiana State Medical Society "Betsy Fund," Room 1528, 1430 Tulane Avenue, New Orleans, Louisiana 70112. □

Tulsa Society Welcomes Members



Twenty-two new members of the Tulsa County Medical Society, admitted during the past year, are pictured at the October 11th meeting of the society honoring newcomers. From left to right:

Front row: James C. Spalding, M.D., health education; Henry Percy Smith, M.D., general practice; Roger A. Hawkins, M.D., pathology; Irene O. Thomas, M.D., general practice; Dorothy R. Danna, M.D., psychiatry; Lenard A. Poplin, M.D., general practice (Broken Arrow); Gary M. Lee, M.D., psychiatry; and, Nelson P. H.

White, M.D., occupational medicine.

Middle row: Ronald C. Passmore, M.D., psychiatry; Dale E. Van Wormer, M.D., pathology; Clayton E. Woodard, M.D., general practice; John R. Alexander, M.D., internal medicine; Bernard J. Maguire, M.D., pediatrics; and, Richard D. Scott, M.D., general practice.

Top row: Robert S. White, M.D., pathology; Gilbert E. Haslam, Jr., M.D., pediatrics; John R. Scott, M.D., occupational medicine; Hugh Perry, Jr., M.D., surgery; Rollie E. Rhodes, Jr., M.D., otology; Roger M.

Atwood, M.D., internal medicine; Daniel T. Sullivan, M.D., general practice (Broken Arrow); and George H. Ishler, M.D., pathology.

Not present when the photograph was made were Clyde W. Barton, M.D., obstetrics and gynecology; Richard D. Tenney, M.D., neurosurgery; Harry E. Livingston, M.D., orthopedic surgery; William F. Carlile, M.D., obstetrics and gynecology; Jesse G. Mullen, M.D., anesthesiology; James C. Walker, M.D., neurology; and, Melvin L. Brill, M.D., internal medicine. □

DEATH

FINIS W. EWING, M.D.
1876-1965

Former President of the Oklahoma State Medical Association, Finis W. Ewing, M.D., Muskogee physician, died October 4th, 1965 in Muskogee.

Born near Warrenburg, Missouri in 1876, Doctor Ewing graduated from Baltimore Medical College in 1905. For several years he practiced in Terral, Indian Territory, before going into the Public Health Service in Washington, D.C. He established his

practice in Muskogee in 1915 where he was active until his retirement in 1951.

Doctor Ewing had served two terms as President of the Muskogee County Medical Society and in 1941-42 became the OSMA President. Later he was Alternate Delegate to the American Medical Association for ten years. He was a member of the Oklahoma State Board of Medical Examiners from 1944-1947.

Among Doctor Ewing's medical af-

filiations were the Southern Medical Association and his charter membership in the Oklahoma Chapter of the American Academy of General Practice.

Doctor Ewing had been honored twice by the Oklahoma State Medical Association. In 1951 he was presented an Honorary Membership for his outstanding service to both humanity and his profession and in 1953, he received a Fifty-Year Pin for over half a century of medical practice. □

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OSMA Insurance Program Strong and Stable

Although the American Medical Association's nationwide disability income insurance program is on financial rocks and faces an uncertain future, the OSMA Council on Insurance announced recently that the disability insurance program sponsored by the Oklahoma State Medical Association continues to function with stability in serving the needs of state physicians.

The three-year-old AMA program, underwritten by the Continental Casualty Insurance Company, will be terminated by the insurance carrier in 1967, and AMA officials must attempt to move the business to a new company. AMA's plan, which offers up to \$1,000 monthly disability benefits (after a one-year waiting period) for lifetime on conditions resulting from either accident or illness, is incurring losses which exceed the permissible ratio to premium income. Continental Casualty will drop the program when the guaranteed five-year contract expires, since the AMA has declined to accept the company's 1965 recommendations for modification.

The AMA expects to draft specifications for a new program and seek bids from insurance companies in late 1966 or early 1967.

OSMA Program

Contrary to the unfortunate AMA experience, the OSMA insurance program not only enjoys an acceptable loss ratio, but its liberal benefits and low premium costs generally parallel the national plan. At the present time, more than 800 association members are participating in the state program which is underwritten by the Insurance Company of North America through Oklahoma City insurance agency C. L. Frates and Company.

The OSMA program offers a variety of options to meet any individual need.

- Monthly disability income options range from \$200 to \$800 a month.

- Lifetime benefits are payable for disability resulting from an accident, and three options are offered for the pay period on disability resulting from illness: Three years, five years, or to age 65.

- The waiting period prior to commencement of disability benefits may also be tailored to individual need. One option offers immediate benefits for accident, and only a seven-day waiting period for illness. The middle option provides a waiting period of 30 days on accident or illness, and the most economical option extends the waiting period to 180 days on both accident and illness.

- As an added extra, physicians may elect an optional \$15 per day hospitalization benefit for a period of up to 120 days.

In addition to "design-it-yourself" options, the standard policy form for the OSMA program offers private flying coverage.

The association's Council on Insurance has carefully studied the benefits and premium rates of the OSMA program as compared to plans offered by regional and national medical organizations, and is convinced of the general superiority of the Oklahoma plan.

Insurance Company of North America is one of the nation's largest insurers, with reserves in excess of one and one-half billion dollars. C. L. Frates and Company has more than 50 years' experience in the casualty insurance field, and now maintains offices in Oklahoma City, Tulsa, Muskogee, Ardmore, Altus and Guthrie.

For further information concerning the OSMA disability insurance program and for information on OSMA-approved plans for overhead expense protection and group term life insurance, contact the OSMA Executive Office, P.O. Box 18696, Oklahoma City. □

Hope Ross Receives National Appointment



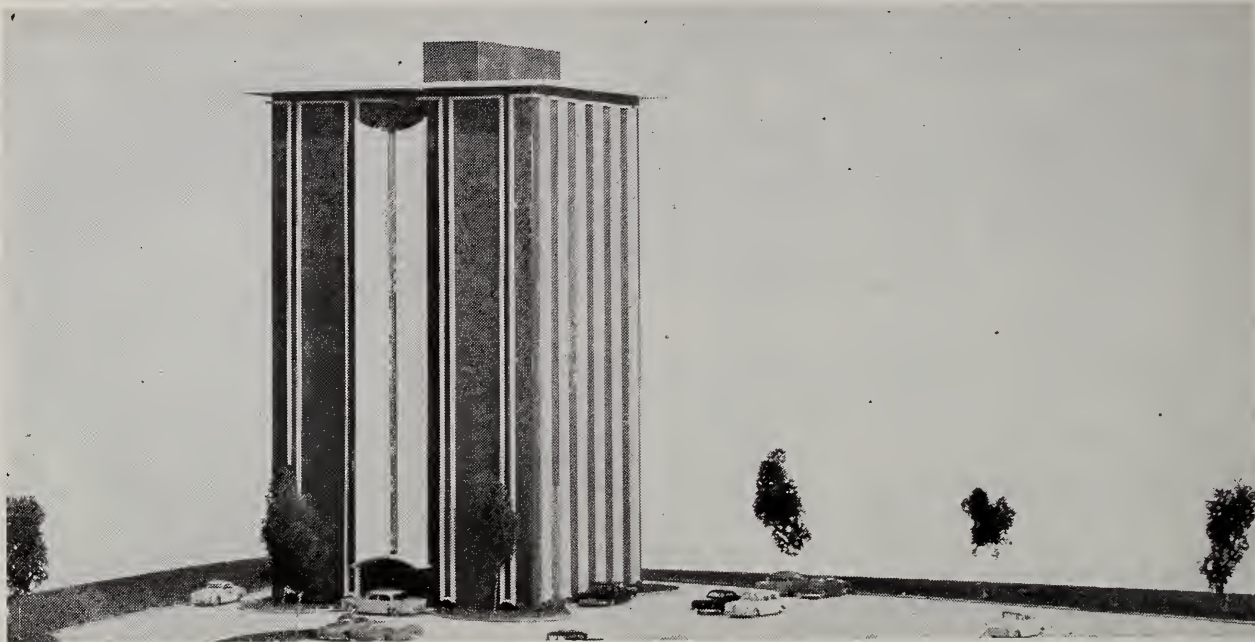
HOPE ROSS, M.D.

Hope Ross, M.D., Enid general practitioner, is the only woman in the nation to be appointed a consultant to the Social Security Administration on Medicare.

Doctor Ross is one of six independent consultants. Other members of the advisory board are selected to represent organizations such as the American Medical Association and the American Hospital Association. They will help draw up the rules and regulations for implementing and administering the Medicare Act.

The physician is a 1935 graduate of the University of Oklahoma School of Medicine, as is her husband, George T. Ross, M.D. The couple has practiced in Enid since completion of their postgraduate training. Doctor Hope Ross interned at University Hospital and took a residency program in medicine and anesthesiology at the North Hudson Hospital, Weehawken, New Jersey.

The health care program will be inaugurated next July. Regulations governing its operation will probably be issued after the first of the year. In the meantime, the OSMA Medicare Committee is providing liaison regarding negotiations involving physician participation. □



The Medical Tower

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Miscellaneous Advertisements

INTERNIST for five-man department in busy and steadily growing north central Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or certified. Contact Gerald R. Arnold, Business Manager, Gelvin-Haughy Clinic, Concordia, Kansas.

NEW two-doctor clinic for sale or lease in Atoka, Oklahoma. County seat. Across the street from hospital. New industries are locating here and doctors are needed. Contact: Bill Goforth, Administrator, Atoka Memorial Hospital. 1-405-Tu 9-3333.

EXCELLENT OPPORTUNITY for general practitioner in community of 15,000; central Florida; 76-bed JCAH Hospital. Write or call collect R. C. Thompson, Bartow Memorial Hospital, Bartow, Florida.

FOR SALE: Pro Fex X-ray machine in excellent condition. Used less than three years. 100 MA - 100 KV - 1/30 second timing. Rotating anode tube, reciprocating bucky with 12:1 grid. Straight radiographic table. One Wolf stainless steel developing tank with five gallon inserts. Appraised value \$2,400.00 Will sell for \$1,800.00. Contact Professional Center Laboratories, 1026 North Flood, P.O. Box 109, Norman, Oklahoma.

OFFICE SPACE available Southwestern Medical Specialties Building in south Oklahoma City. Nucleus of reputable doctors in various specialties already successfully established. Three minutes from new South Community Hospital. Call SW 4-2246 after 7:00 p.m.

NEEDED: A 200 or 300 milliamp, used X-ray machine with spot device and a proctoscopic tilt table, either hand or automatic. Direct all offers to P. O. Drawer G, Chickasha, Oklahoma 73018.

WANTED: One or two associates, small town medical and surgical practice. Above national median income. No investment required. Contact Charles A. Cashman, M.D., P.O. Box 226, Okemah, Oklahoma or 918. MA 3-1177.

WANTED: Internist for locum tens for May 30th. 1966 through June 19th, 1966. Oklahoma State Medical License and malpractice insurance will be necessary. Contact Jack H. Foertsch, M.D., 304 Petroleum Building, Chickasha, Oklahoma 73018.

In the Spirit of Christmas

LOUIS WON his swimming match. He won even though it was a photofinish and his time was slow. Ann got a "B" in English. It was a good grade but she barely made it. With more effort she could have made an "A"; on the other hand she might have coasted in with a "C." Both children knew they could have done better and they were discouraged by their shortcomings. They did not realize that their accomplishments were much greater than their failures.

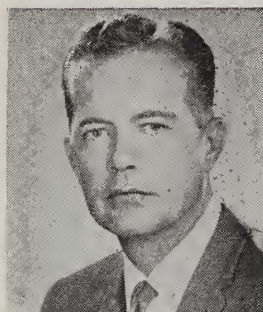
Parents and teachers know the right way to encourage children in their faltering steps along the path of learning to live in this world. A few words of recognition or honest praise for the good things they have done are worth far more than long lectures about what they should have done. Children see their mistakes more clearly than they appreciate their progress so the responsibility of adults is to help them make the most of their capabilities by emphasizing how far they have come rather than how far they have to go. It is a simple cause and effect relationship.

The passing years do not eliminate men's need for encouragement and approval. As children grow up they learn to camouflage their need; it may become complicated and sometimes distorted in adults but it never disappears. From president to ditch digger, from private to general it is a universal soft spot. Everyone is aware of this sensitive area in his own personality but it takes a long time to discover that a trait so characteristic of childhood persists in other people too. For example, who would not hesitate to commend a Great Man for managing a minor problem well for fear of being suspected of simplicity or an ulterior motive whereas actually a sincere "Well Done" even from an unknown peon might bring him more comfort than a Presidential Citation.

The older people become the less timid they are in the matter of giving credit to their fellows for a job well done. During the busy summer of life people's good qualities seem so common that men feel compelled to look for exceptional faults to break the monotony of conversation or to compensate for self-evident defects in their own lives. When the time begins to run out however they perceive rather wistfully that no man's life is long enough to savor all the good among his fellow mortals, in fact the ego is not so important after all and every minute spent on human frailty is wasted forever. Younger men sometimes smile at this kindness. They mistake the keener vision of the mind's eye that comes with age for senility; they confuse benignity with resignation. Even Santa Claus is a doddering fuddy-duddy.

"Peace and good will to men." This ageless wisdom was put into words two thousand years ago but in spite of widespread publicity its truth has not really caught on. With ears that do not hear and eyes that do not see modern people deserve to be called educated savages when only once a year we pay lip service to the good will we owe our fellows every day. It is not so much a debt as a moral duty, an obligation to Mankind as a family whose every member harbors an impoverished segment that needs understanding and encouragement just as hungry children need food. Good will to men is a moving force, not a commodity; it cannot be given without putting forth a sincere effort and it cannot be bought nor sold. The gift is not for the giver's tangible gain but like the anonymous donor whose reward lies in the knowledge that he has been able to make the way a little easier for someone else.

The spirit of Christmas is in giving to others, giving not from the world's goods but from our own spirit.—C .B. Dawson, M.D. □



While you're in the "Christmas Spirit," offer a kind thought for your State Association. Moreover, let your New Year's Resolutions include a sincere pledge for greater support and increased activity!

Up to now less than five per cent of the membership of OSMA make any significant contribution to its progress or success, save the payment of annual dues . . . and even that is often offered reluctantly! I will certainly agree with those who charge that "the same old clique runs the State Association." The same old clique does so because the same old clique can be relied upon to deliver! Every now and then a bright new face appears on the scene; and he is welcomed with enthusiasm! I have yet to see an offer of assistance rejected! God grant us more offers!

Moreover, those who would willingly give of their time and energy find themselves hampered by an appalling lack of funds. By any standard of economic measurement, medicine and its allied fields represent a major investment . . . in talent, training and money. *It is absurdly false economy, therefore, when we entrust our professional progress to a proud but poverty stricken association whose activities can be maintained only by the voluntary efforts of a few physicians and by outright exploitation of our paid staffs!*

Our executive secretaries should be *executives* and not *secretaries*. I am continually impressed by the ability, the versatility, and the dedication of our own Don Blair and his associate, Dwight Whelan. Few associations are blessed with such a creative potential: but the volume of mundane, routine tasks we assign them negates any opportunity for creativity. They should be thinkers . . . not errand boys. Planners . . . not peons! Yet, when it requires an average of three nights a week plus virtually every weekend, in addition to regular office hours, just to keep the routine work going . . . there is little time for planning!

Through misdirected economy, we are indeed sacrificing potential!

Business associations have matured; and no one can question the sophisticated performance of labor unions with their amazing record of accomplishment in the past twenty years. Only professional organizations have failed to keep pace with the time! In a sense, this type of conservatism is laudable; for our associations were formed to provide a medium for exchange of scientific knowledge. Outside pressures of rising magnitude, however, have forced us to expand our areas of interest and activity. We can no longer afford the luxury of being pure scientists; for simple survival now requires that we be public relations experts, lobbyists, civic leaders, fund raisers, complaint managers, sociologists, and politicians!

It is naive to believe that such expanded requirements can be effectively implemented by physician volunteers. We have neither the talent nor the time . . . and we frequently lack the incentive! Our practice of changing elected officers annually necessarily interrupts continuity of programming and re-directs areas of emphasis.

It seems to me, therefore, that the actual machinery of the Oklahoma State Medical Association should be run *not* by physicians, but by an enlarged, competent, well-paid professional staff, who are trained in the areas toward which we should direct more concentrated activity. And, they should be supplemented by adequate clerical help to relieve them of time-consuming minutia. No man can be an expert in all things; so let us limit physician contribution to the purely scientific and supervisory, while delegating socio-economic problems to paid experts who are, in this area, more capable than we.

Toward the goal of strength and greater accomplishments for our association, I am recommending a major operational change. Admittedly it is expensive . . . maybe another \$25.00 per year per member! But, I would remind you that *economy operations rarely yield magnificent results!* We have the potential, and the need is obvious. The chair will now recognize a motion for a dues increase!

Rex Kenyon

Treatment of Rheumatoid Arthritis With Indomethacin

RICHARD W. PAYNE, M.D.

Indomethacin represents a new concept in the treatment of the rheumatic diseases. Its usefulness in the treatment of rheumatoid arthritis is demonstrated albeit its rather high incidences of troublesome but not serious side effects.

INDOMETHACIN (figure 1) is an indole initially found to be highly active in the prevention of cotton pellet granuloma formation in the laboratory rat.¹ Such evidence of anti-inflammatory activity pointed to potential value of the compound in the treatment of certain of the rheumatic diseases.

This agent has been used in a wide variety of rheumatic diseases² and has been reported to bring about improvement in acute gouty arthritis, moderate response in rheumatoid spondylitis and more variable but unquestionable benefits in rheumatoid arthritis.

The present report is concerned with our

Supported by the Oklahoma Chapter of the Arthritis Foundation.

From the McBride Clinic, Bone & Joint Hospital and the Department of Medicine, University of Oklahoma School of Medicine.

observations on 100 patients with acute manifestations of rheumatoid arthritis treated with indomethacin.

METHODS

Patients were followed in the out-patient clinics of the McBride Clinic, Arthritis Clin-

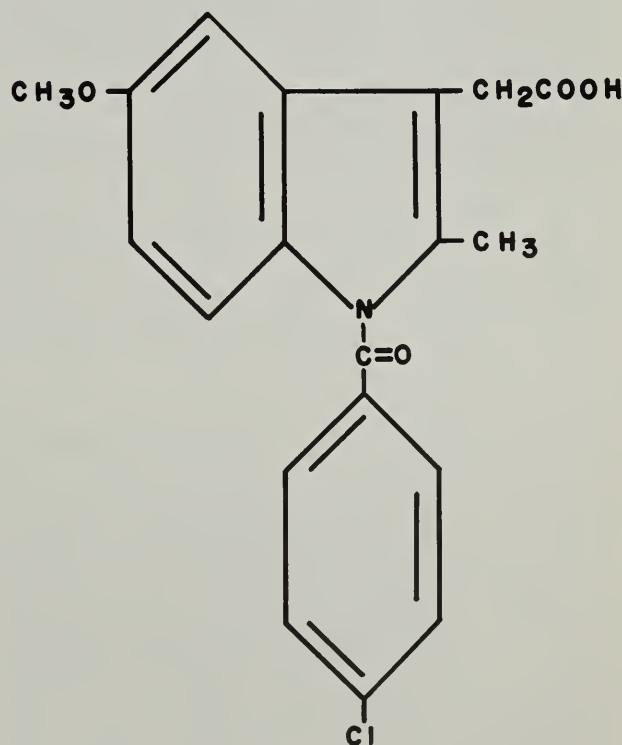


Figure 1

ic of the University Hospitals and Baptist Hospital as well as hospitalized patients in the Bone and Joint Hospital and the Oklahoma County Farm Hospital all of Oklahoma City. Those included in this report were rheumatoid arthritics of severe current disease activity (activity 4) (table 1). The rheumatoid state prior to treatment was characterized by severe morning stiffness longer than 30 minutes after awakening, pronounced malaise, fatigability and muscular weakness, daily aspirin consumption in excess of 2.4 Gms. and joint swelling with redness, tenderness and heat, irrespective of chronic deformity. Patients with a known history of peptic ulcer were excluded.

At the beginning of indomethacin therapy or within three weeks thereafter patients were removed from other anti-rheumatic therapy except those chronically committed to prednisolone therapy in whom rapid withdrawal of this agent was considered hazardous. Aspirin was allowed with the provision that dosage of this agent be curtailed to barely appreciable analgesic effect and that current intake be reported at each evaluation time.

One hundred patients selected on the basis of these criteria were included in the present evaluation of the dry-filled capsule form of indomethacin.

Seventy-four of the patients were women (average age 48 years) and 26 were men

Table II

DURATION OF TREATMENT WITH INDOMETHACIN	Number of Patients
Duration of Treatment	
12 months or more	41
6-12 months	39
Less than 6 months	20

(average age 51 years); 10 of these patients were below the age of 20 years. The average duration of the disease was 9.6 years. At the beginning of treatment the patients were classified according to the Steinbrocker criteria³ as follows:

Stage I	10 patients
Stage II	26 patients
Stage III	48 patients
Stage IV	16 patients

Indomethacin was given orally in dry filled capsules (furnished in 25 and 50 mg. sizes) in single or multiple daily doses. Initial dosage for adults was 50 mg. three times daily with reduction in dosage to tolerance; patients below the age of 20 were started on 25 mg. daily and the dose increased to tolerance, not exceeding 75 mg. daily.

During each clinic visit or evaluation period the clinical state of rheumatoid activity was evaluated according to table 1 and the response to treatment was graded accordingly on a four point scale. The rough appraisal of the grading system as described by Steinbrocker³ was as follows:

Grade I = complete remissions of symptoms
Grade II = major improvement
Grade III = minor improvement
Grade IV = no improvement or exacerbation of symptoms

Table I
CLINICAL APPRAISAL OF INDOMETHACIN

Clinical Activity After Treatment	Response (Grade)	Morning Stiffness	Malaise Fatigability & Weakness	Daily Aspirin Requirement	Patient Appraisal of Response	Joint Manifestations	Physical Capabilities	Number of Patients At End of Therapy
1	I	None	Absent	None	Complete Remission of Symptoms	None	Limited only by deformity	15
2	II	<10 min	Slight	600-1200 mg.	Major Improvement	Transient Joint Pain	Limited only by fatigability and deformity	28
3	III	<30 min	Moderate	1200-2400 mg.	Minor Improvement	Joint swelling without redness or heat	Limited by joint pain, fatigability and deformity	31
4	IV	>30 min	Pronounced	2400 mg	Unmodified or increased complaints. Feels that medication of no value.	Joint swelling with redness and heat	Limited by general malaise, joint pain, fatigability and deformity	26

Table III

AVERAGE DOSE OF INDOMETHACIN	
Dose	Number of Patients
50 mg. T.i.d.	6
50 mg. B.i.d.	12
50 mg. Daily	16
25 mg. Q.i.d.	4
25 mg. T.i.d.	34
25 mg. B.i.d.	20
25 mg. Daily	8

For the purpose of the present report it was considered more meaningful to group Grade I and Grade II responses as "major response."

The degree of joint swelling was evaluated separately regardless of other criteria as "increased," "decreased" or "unchanged."

Hand grip strength in both hands was measured at each evaluation period using the Jamar dynamometer. In addition, detailed muscle testing with quantitation of muscle strength and range of joint motion was completed on two patients at monthly intervals for a period of six months.*

Laboratory data were obtained on most of the patients during their treatment period on indomethacin. These data included hemoglobin, hematocrit, erythrocyte sedimentation rate, white blood cell count with differential, alkaline phosphatase, SGO-T, blood urea nitrogen, serum uric acid and serum glycoprotein expressed in relation to serum protein as the protein-polysaccharide ratio (P.R.).⁴

RESULTS

The duration of treatment and average dose of indomethacin with which patients

*By Mrs. Linda C. Resnick, R.P.T., Senior Physical Therapist, University of Oklahoma Medical Center.

Table V

OBJECTIVE RESPONSE TO INDOMETHACIN				
Criterion	Oral Temperatures	Joint Swelling	Buta-zolidin Requirement	Glucocorticoid Requirement
	Change of .5°F. or more			
Increase	10	2	0	0
Decrease	9	70	0	11
No Change	37	22	11	13
Total	56	94	11	24

were treated eventually is outlined in table II and table III.

Twenty-five of the patients have remained on indomethacin for 18 months which is our total duration of experience with the capsule form of the drug.

Therapeutic improvement attributed to indomethacin occurred in 74 of the 100 patients, although only 43 of these individuals could be considered to derive major benefits. Sustained decrease in joint swelling was observed in 70 of the patients and appeared to be the most consistent effect of the drug. Response to the agent during long-term administration was not clearly dose-related. Several patients have maintained therapeutic improvement on only 25 mg. daily as manifest by return of symptoms within 48 hours after stopping the drug. However, initial response so far as rapidity of action and degree of symptomatic relief appeared to be quantitatively related to dosage. Relief of symptoms generally occurred within 24 to 48 hours after beginning indomethacin though full therapeutic effect usually did not occur until after a week to a month of continuous administration.

Table IV

OBJECTIVE RESPONSE TO INDOMETHACIN

Criterion	Body Weight	Blood Pressure	Hemoglobin	Hematocrit	Erythrocyte Sedimentation Rate (Westergren)	Protein Polysaccharide Ratio	Grip Strength (Jamar)
	Change of 2 pounds or more	Change of 10 mm Hg. Systolic or more	Change of 1 gm/100 cc or more	Change of 3 mm. or more	Change of 10% or more	Change of 5% or more	Change of 3 pounds or more
Increase	25	17	15	12	12	19	2
Decrease	22	13	29	24	21	21	12
No Change	27	33	46	41	39	32	23
Total	74	63	90	77	72	72	50

Table VI
SIDE EFFECTS TO INDOMETHACIN

Headache	41
Nausea	16
Dizziness	10
Edema	6
Diarrhea	4
Swishing in ears	3
Weakness	2
Skin Rash	1
Urinary frequency	1

Total 84

No side effects: 32 patients

Drug discontinued because of side effects: 19 patients

A few of those patients previously treated with phenylbutazone were concurrently treated for one month with this agent during indomethacin therapy but no potentiation was evident. Of the 24 patients committed to glucocorticoids (prednisolone), 11 showed a decrease in glucocorticoid requirement and seven were able to stop prednisolone entirely (table V).

There were no notable changes in oral body temperature, body weight, blood pressure, grip strength, hemoglobin, hematocrit, erythrocyte sedimentation rate, SGO-T, blood urea nitrogen, alkaline phosphatase, serum uric acid, or serum glycoprotein related to administration of indomethacin (tables IV and V). Complete muscle charts obtained at monthly intervals on two patients showed no increase in muscle strength or range of joint motion during six months of treatment.

Side effects to indomethacin were frequent (68 per cent of patients) and proved a most decisive factor in eventual dosage of the

drug. The agent was discontinued because of intolerable side effects in 19 patients. Summary of the side effects encountered in our patients is presented in table VI.

Headache was the most common side effect. It was usually localized in the temporal or bitemporal regions and was of a pounding "migraine" type with onset usually in the early hours of the morning (3 to 4 a.m.) then subsiding during the day. Aspirin alone occasionally modified this side effect. Vertigo, not necessarily related to the headaches, was observed less frequently. Nausea, seldom accompanied by vomiting and not related to previous gastrointestinal complaints, was provoked by indomethacin and was occasionally related to the vertigo. Diarrhea occurred in four patients and was severe in two, though no bleeding from the bowel was observed. Mild peripheral edema was ascribed to the drug in six patients. In addition, on direct questioning, many of the patients admitted a vague sense of mildly unpleasant dysphoria or difficulty in mental concentration while taking the agent.

Only 32 patients showed no side effects to the medication and their eventual dosage was determined by what was considered maximum therapeutic effect with minimum dosage or by fortuitous regulation of dosage.

These side effects, while very common and frequently bizarre, in no instance proved serious and disappeared within 24 hours after stopping or reducing the dosage of indomethacin. Tolerance to mild side effects was occasionally seen on continuation of dosage or by reinstitution of therapy after a short rest period. However, rapid appearance of side effects after prolonged and previously trouble-free administration of a stable dose was not uncommon.

DISCUSSION

Richard W. Payne, M.D., graduated from the University of Oklahoma School of Medicine in 1943 where he is now Assistant Professor of Medicine. His medical affiliations include the Endocrine Society, the American Rheumatism Association, the American Society for Pharmacology and Experimental Therapeutics, the Society for Experimental Biology and Medicine, Alpha Omega Alpha and the American College of Clinical Pharmacology and Chemotherapy.

In 1963 Hart and Boardman reported reduction in joint swelling and pain and decrease in glucocorticoid requirement in patients with rheumatoid arthritis treated with indomethacin.⁵ In their experience, 22 of 52 patients with rheumatoid arthritis exhibited salutary response to the compressed tablet form of the drug—a form which has

been reported by the manufacturer to be less consistent in action than the dry filled capsule.²

Cattogio in a double-blind study noted beneficial effects from the drug in two-thirds of 31 rheumatoid arthritis patients treated with the agent.⁶ Improvement in slightly less than 50 per cent of rheumatoid arthritis patients on prolonged treatment with indomethacin has been published by Clark who also noted reduction of glucocorticoid dosage in about half of those patients concurrently on these agents.⁷ Smyth in his report on 63 patients treated with indomethacin describes a progressive and gradual decrease in joint manifestations in most of those patients classified as early rheumatoid arthritis during the first three to five months of therapy with indomethacin—an effect not observed with placebo.⁸ He also affirmed the reduction in the glucocorticoid requirements afforded by the drug.

Norcross who probably has the largest individual experience with indomethacin finds a beneficial response to the drug in 66 per cent of his rheumatoid arthritis patients.⁹

Undesirable effects similar to those encountered in this study have been encountered by these investigators though with minor variations in frequency and description as summarized in the Merck report.² This compendium also documents the appearance of peptic ulcer in 28 of 1,883 patients (1.5 per cent) while being treated with indomethacin—though this response appears to be somewhat less frequent with more recent experience either due to use of the capsule form, awareness of the problem or reduction in the maximum dosage.

In our experience, indomethacin has proven of major therapeutic benefit in 43 per cent of patients with severe acute rheumatoid arthritis and of less striking value in an additional 31 per cent. A reduction in glucocorticoid dosage frequently is made possible by the drug. Side effects to indomethacin are to be expected in the majority of those who receive the agent but with prompt regulation of dosage they have not been serious in our experience. It seems likely that further experience with the agent

or development of analogues will modify this initially disturbing finding.

The mechanism by which indomethacin produces improvement in rheumatoid arthritis appears to be related to the reduction in joint swelling and pain. We have been unable to determine any consistent improvement in acute phase reactants, chronic joint deformity or general strength that can be attributed to the drug.

It is our impression that indomethacin is a major therapeutic contribution to the pitifully inadequate armamentarium for the treatment of rheumatoid arthritis. It further introduces an entirely new class of agents applicable to understanding and treating this disease.

SUMMARY

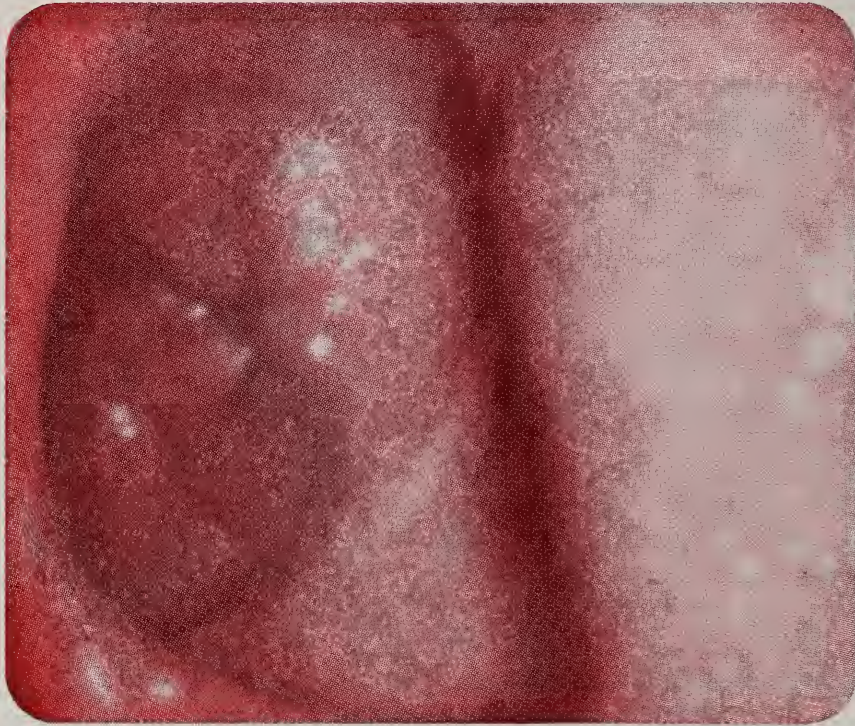
One hundred patients with acute severe manifestations of rheumatoid arthritis were treated with indomethacin for periods up to 18 months. Major control of the disease activity was afforded by the drug in 43 patients and minor improvement occurred in an additional 31. The most obvious effects of the medication were reduction in joint pain and swelling. Indomethacin was found to potentiate prednisolone but not phenylbutazone in these patients. Side effects from indomethacin were frequent (68 per cent) and disturbing but were not followed by serious consequences in this series. □

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Intragastric photography studies¹



A/ E. B., male, age 48. Normal antral contraction. Pyloric opening is not seen. It is difficult to differentiate a deep prepyloric contraction from a "pyloric fleurette" or true pylorus.

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Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

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SEARLE

Research in the Service of Medicine

Total Replacement of Aortic Valve

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Total aortic valvular replacement is taking its proper perspective in open cardiac procedures. Mortality rate is acceptable and improvement discernible.

THIS REPORT consists of a brief review of some considerations of total aortic valve replacement using a prosthesis without sutures. A series of 17 consecutive cases is summarized.

The extracorporeal system consists of a double helical reservoir heart-lung machine.¹ The basic principles used have been the same as for other open heart surgical procedures and include: 1) Hemodilution, brought about by pumping the priming volume of the heart-lung machine into the patient. The priming volume consists of five per cent dextrose in water and is calculated by using the formula: Weight in kilograms x 16 ml.² 2) Moderate internal hypothermia induced by counter-currently pumping cold or warm water into the inner helix. Usually, partial perfusion is maintained until the mid-esophageal temperature reaches 30°C.² At this temperature, total body perfusion is started. 3) Flow rates are calibrated in advance to 20

ml. per kilogram of body weight.² These flow rates are not altered during the entire procedure. 4) Citrated bank blood is used to replace the usual losses from the surgical field.³ 5) Additional selective cooling of the myocardium is accomplished by instilling cold saline in the pericardial sac.⁴ No coronary perfusion is used. Other details of the perfusion system and ancillary techniques have been described in detail previously and the reader is referred to them.⁵

MATERIAL

This series summarizes the first 17 patients who had total aortic valve replacement using a sutureless prosthesis. This series does not include cases requiring multivalvular corrective procedures or those who had undergone previous aortic valvular surgery. The oldest patient was 63 years old and the youngest was 15 years old; the median age was 45 years. There were seven patients over the age of 50 and two over the age of 60. Their weights varied from 45.4 kg. to 91 kg. with an average of 63 kg.

RESULTS

Perfusion data:

The total perfusion time averaged 77 minutes; the shortest was 51 minutes and the longest 135 minutes. The average time for total body bypass was 47 minutes; the shortest was 30 minutes and the longest 121 minutes. The average time of aortic

occlusion was 26.5 minutes; the shortest was six minutes and the longest 42 minutes. Table I is a summary of the pertinent perfusion data in these 17 patients.

POSTOPERATIVE COMPLICATIONS

Hospital Stay and Postoperative Psychosis:

The hospital stay averaged 15 days; the shortest time was seven days and the longest 31 days. Postoperative psychosis has not been a feature in this series.

Infection:

There was one postoperative infection of significance. It was due to an infected thrombus which extended from the base of the valve onto the outflow tract of the left ventricle (patient #8).

Postoperative Bleeding:

There were three patients (#8, 12 and 15) who had postoperative exploration for bleeding and all three had small points of oozing in the mediastinal structures. One case also had bleeding in an opening made into the right pleural space. A fourth patient was reexplored for hemopericardium (patient #11).

Complete Atrioventricular Block:

No patient had postoperative persistent complete atrioventricular block. However, one patient had a preoperative complete atrioventricular block (patient #10). An internal pacemaker was placed in this patient after completing his aortic valvular replacement. There was no recorded instance of ventricular fibrillation following surgery.

Embolism:

Two patients (patients #4 and 16) had only transient manifestations of embolization. One was characterized by a period of aphasia and right-sided weakness which occurred three days after implantation of the

sutureless prosthesis. Another patient had two episodes of embolization; one of these was an embolus to the left popliteal artery. Both patients recovered without sequelae. A third patient (patient #10) died suddenly 97 days following surgery. No postmortem examination was performed and this may have been due to an embolus.

Aortic Regurgitation:

In the first eight patients there were four instances of the development of a murmur of aortic regurgitation. One was transient (patient #1) seven months after surgery, while three were of a persistent nature that developed 24 days (patient #2), three days (patient #4), and the first day (patient #8) following replacement of the prosthesis. The blood pressures in the three patients with persistent aortic regurgitation were 110/50, 130/50, and 130/80 progressing over four months to 120/0. Since then we have been using our aortic retaining teflon wrap to prevent lateral distention of the aortic root during systole and in the last nine patients, only one developed aortic regurgitation two months following placement of the Magovern prosthesis (patient #10). His blood pressure was 120/70 upon dismissal from the hospital, 115/40 one month following surgery and 130/60 two months later.

MORTALITY

There was one early postoperative death in this series (patient #3). There were three later deaths. The first occurred in the patient who had aortic regurgitation 24 days following placement of a sutureless aortic valve (patient #2). This was due to a technical error during an attempt to replace the prosthesis. The second death occurred four months following placement of the aortic prosthesis. This is patient #8 referred to

Table I.

Number of Patients	Age Years	Weight Kilograms	Total Perfusion Time Minutes	Total Bypass Minutes	Aortic Occlusion Minutes
17	15 - 63	45.4 - 60	51 - 135	30 - 121	6 - 42
	45	63	77	47	26.5

Perfusion data of the first 17 patients who have had initial total aortic valve replacements with Magovern prostheses.

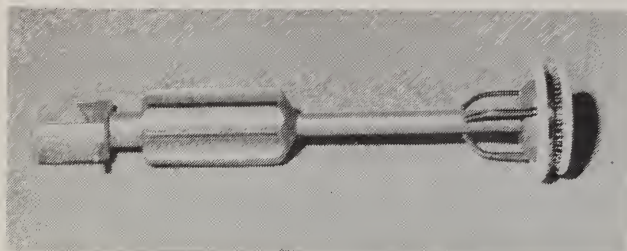


Figure 1. Photograph of Magovern aortic prosthesis with activating handle attached.

earlier who had uncontrollable bacterial endocarditis and thrombitis. The third patient (patient #10) died suddenly 97 days following insertion of the prosthesis.

DISCUSSION

We believe these satisfactory results are due to: 1) The respect for human physiology by using an efficient extracorporeal system; 2) The use of additional selective hypothermia of the myocardium by instilling cold saline in the pericardial sac without the use of coronary perfusion; 3) The use of the Magovern sutureless valve. Of course, the final conclusions will be reached after longer observation of these patients. This report is intended only to point out that aortic valve replacement has reached the

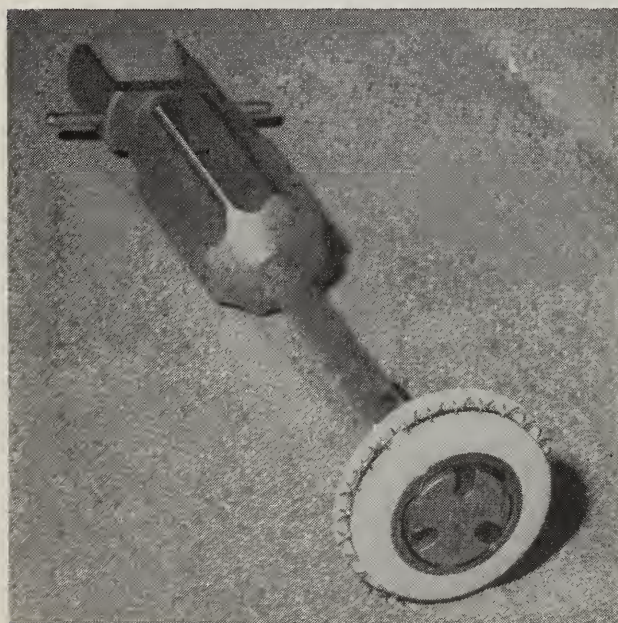


Figure 2. Activating handle approximates the two plates of the Magovern prosthesis bringing into view the prongs that engage the aortic wall.



Figure 3. Photograph of Magovern aortic prosthesis with the ball in place.

stage where it can be done with a low operative mortality rate. In this series, there was one hospital mortality in 17 consecutive initial total aortic valve replacements and this was due to a technical error.

The concept of a ball valve prosthesis was applied clinically by Hufnagel as early as 1952.⁶ This device was placed in the descending aorta. Almost a decade later Harkin and associates⁷ successfully inserted a ball valve prosthesis below the level of the coronary ostia. Suturing the valve in position was time consuming however and necessitated coronary perfusion and other complicated paraphernalia. Magovern and associates⁸ simplified the problem of insertion of this ball valve prosthesis by devising the technique without sutures as depicted in figures 1, 2 and 3.

All patients with aortic valve replacement are given 1,000,000 units of penicillin intravenously at the end of perfusion and postoperatively are given sodium methicillin, penicillin and streptomycin.

Excessive postoperative bleeding is due to a bleeding point and not to coagulation defects.⁹ We prefer early exploration for all patients whose chest drainage is more than 20 ml. per kg. of body weight during the

first one or two hours. This explains the incidence of exploration on this series. Early intervention decreases the amount of blood required, helps to remove clots and to prevent infection.

At present, all patients are started on Coumadin anticoagulation as soon as feasible. Embolization may occur despite adequate Coumadin anticoagulation. Adequate removal of the valve leaflets, scar tissue and calcifications from the aortic ring and surrounding areas, as well as proper placement of the valve in relation to the outflow tract and adequate size of the aortic root will minimize such occurrences.

Quinidine is used only after the patient is fully digitalized and if there is persistence of frequent ventricular ectopic beats. The size of the heart decreases in transverse diameter in many patients during their stay in the hospital.

Aortic regurgitation following placement of a prosthesis is a bad prognostic sign even though the components of blood pressure are maintained at adequate levels. Three out of the four patients who had persistent aortic regurgitation murmure are dead. Patient #4 is progressing well after replacement of the Magovern prosthesis. At exploration the

medial one-fourth of the prosthesis was disengaged from the aortic wall. This might have been prevented if lateral distention of aortic wall had been limited by the retaining wrap. As a matter of fact, all the patients who succumbed following placement of an aortic valvular prosthesis had aortic regurgitation murmurs. The relative absence of this complication when the aortic retaining wrap is used makes this simple technique worthwhile. □

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430 N.W. 12th Street, Oklahoma City, Oklahoma

MEDICAL ETHICS ESSAY CONTEST ANNOUNCED

The American Medical Association, through it Judicial Council, will sponsor a Medical Ethics Essay Contest, open during this academic year to junior and senior students in accredited medical schools in the United States. The contest, to be known as the Norman A. Welch, M.D. Essay Contest, is another step in the Judicial Council's Expanded Program on Medical Ethics.

Cash prizes totaling \$1,000, made possible by a special appropriation by the AMA's Board of Trustees, will be awarded to the winning essays. First prize will be \$500, second prize \$300, and third prize \$200.

The contest is being named in honor of the

late Norman A. Welch, M.D., a leading figure in American medicine for many years, who died September 3rd, 1964, while serving as the 118th President of the AMA.

Complete contest rules, as well as suggested essay topics, are available upon written request from the Department of Medical Ethics, American Medical Association, 535 N. Dearborn Street, Chicago, Illinois 60610. They also may be obtained at the offices of the medical school deans.

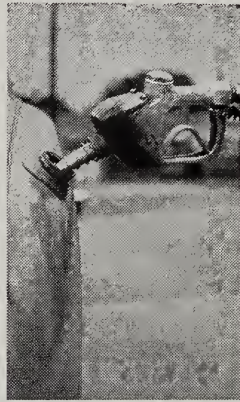
June 1st, 1966, has been set at the deadline for entries in the contest, which the Judicial Council hopes will be continued on an annual basis. □

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Review: Chronic Toxoplasmosis and Pregnancy

JAY C. JOHNSTON

A significantly large percentage of American women in the reproductive age group have come in contact with toxoplasmosis. Some transmit the infection to their offspring with resultant abortions, stillbirths and perinatal deaths.

THE FIRST documented toxoplasmosis infection in human beings was reported by an ophthalmologist in Prague who described a cystic structure in sections of the eye of a patient suffering from choroiditis. The initial description of a neonatal disease caused by *Toxoplasma gondii* was made in 1939 which aroused considerable interest and has since led to a progressive increase in investigation and research concerning the spectrum of the toxoplasma disease process and its relation to pregnancy.

Toxoplasmosis is a relatively common and generally mild parasitic infection which can, however, produce fatal and crippling complications under certain conditions. This is true particularly when a human fetus or a newborn infant is infected. In this instance the infection is the result of the acquired dis-

ease which may occur in the mother at any time in her pregnancy, most often in the last two trimesters. Although the infection of adults can be dangerous and fatalities have been reported, the danger to the nervous system, eyes and other structures of the newborn infant can be devastating; blindness, brain damage and mental deficiency are all too common with congenital toxoplasmosis.

Early diagnosis is of paramount importance in view of the poor response which may be obtained in the treatment of subacute and chronic phases of the illness. Difficulties in diagnosis stem from the manifestations of toxoplasmosis which closely resemble the symptoms of other infectious diseases.

The significance of *Toxoplasma gondii* in human abortion is the subject of considerable conjecture and opinion. Many competent investigators find the incidence of abortions to be increased among women infected with toxoplasma, while equally competent researchers are still dubious of this relationship.

The ability of *Toxoplasma gondii* to cross the placental barrier and invade the fetus *in utero* has been clearly established in both animals and man. Of interest is the fact that mothers who have given birth to congenitally infected offspring most often show no signs or symptoms during the gestation period. The infection is thought to occur within the mother's last six months of gestation. The fetus usually remains relatively unaffected by infection in the first trimester.

Prepared as partial completion of the course in Gynecology and Obstetrics, University of Oklahoma School of Medicine.

In evaluating the incidence of toxoplasmosis and human abortion, one must first be aware that toxoplasma is not rare and unusual as was once thought but is extremely common. Surveys of random population groups who were tested by immunologic methods indicate that the American population is widely exposed to the infection. Twenty per cent (as a conservative estimate) of people in this country give evidence of having had contact with toxoplasma by the time they are adult. There is no difference in the sexes in this respect. Approximately one in five pregnant women with whom the obstetrician deals will have past or present infection experience with toxoplasma.¹

During the chronic stage of toxoplasma infection, symptoms are variable or absent and the serologic tests stay positive at a low titer while the living organisms persist in the body.²

It is probable that toxoplasma can pass from mother to child during either the acute or chronic phase of the infection. Data from animal experiments have established that *Toxoplasma* can be transmitted from chronically infected mothers to their offspring, *in utero* despite the findings of high levels of toxoplasma antibodies in the mothers.³ In addition, animals giving birth to toxoplasma-infected offspring may do so repeatedly in subsequent pregnancies and, in some cases, the infected female offspring transmit the parasite to the next generation. The disease produced in humans is comparable in many ways. Of interest in this respect is the finding of parasitemia in chronically infected mother animals as well as in human beings.^{5, 6} In addition, toxoplasma cysts have been found in the uteri of chronically infected laboratory animals and in the uteri obtained at hysterectomy from normal humans.⁷ This is postulated as a possible mechanism by which the growing fetus is infected. If the implantation site of the placenta coincides with such a focus of toxoplasma, then circumstances may be extremely favorable for passage of infection.

In the mother, signs and symptoms may be entirely lacking during pregnancy or they

may include such general symptoms of an acute attack of toxoplasmosis as fever and lymphadenopathy. In other cases, the pregnancy progresses in an obviously abnormal fashion with cramps, occasional vomiting, albuminuria, fever and the pregnancy is terminated by abortion or premature delivery.

There is a suggestion that the longer the fetus is carried toward term, the fewer the symptoms in the mother. Most women who carry their children eight months or longer are asymptomatic.⁸

With the high incidence of toxoplasmosis in European countries, the number of researchers in these countries is great. Recent reports have implicated *Toxoplasma gondii* as a significant cause of human abortion and neonatal death. Most remarkable is the fact that the mothers reported in these studies have been diagnosed as having chronic toxoplasmosis. The criteria for determining a chronically infected woman is the presence of a stable Sabin-Feldman dye test titer at a level lower than that usually associated with acute toxoplasmosis and a positive toxoplasmin skin test.¹¹

Systematic observations on the relation of toxoplasmosis to human abortion involve the utilization of at least one of three diagnostic techniques—isolation of the parasite, serological tests and skin tests—as a major tool for studying the relationship of toxoplasma to recurrent abortions. An investigator from Czechoslovakia recently reported 379 pregnant women whose pregnancies had resulted in various types of perinatal mortality in which toxoplasmin skin tests were administered. The majority of these women had previous miscarriages, still-births, premature deliveries, congenitally malformed infants or repeated intrauterine fetal deaths. Of the total number (379) studied, approximately half were age 18 to 30 years and the rest were in the 30 to 40 year age bracket. Two hundred and thirty-three women (61 per cent) were reported to have a positive skin test. This high incidence of positive skin

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tests is in contradistinction to the 30 to 38 per cent figure found in a comparable age group in their normal population.⁹ In addition are the studies reported from Germany in which the authors used as a criterion for diagnosis the isolation of the parasite by inoculating tissues into normal laboratory animals. Such attempts at isolation were successful from many products of conception, as well as lochia, milk and menstrual blood of some of the chronically infected mothers who had habitual or repeated miscarriages, premature births or stillbirths.

Certain children with congenital toxoplasmosis may appear relatively "normal" when compared with those exhibiting the features usually associated with the more fulminating infection such as hydrocephalus, microcephalus, microphthalmos, convulsions, heptosplenomegaly and jaundice. Evidence for this is that a small fraction of "normal" infants could be shown to have congenital toxoplasmosis.¹⁰ These studies indicate that congenital toxoplasmosis is a disease with a wide range of manifestations and that the different forms may depend on such factors as the gestational age at which the fetus was infected, the virulence of the particular strain of toxoplasma involved and the rapidity and extent of antibody formation by the mother and its transmission to the fetus. It is conceivable that in the chronically infected mother, antibody would be available to the fetus before invasion by the parasite, and thus might limit the extent of the infection. Evidence that this takes place in animals is suggested by the fact that some congenitally infected offspring of chronically infected mother animals appear normal at birth and have a normal life-span.

Numerous papers from European countries lend support to the hypothesis that a chronically infected mother may transmit the infection to her offspring.¹² Workers from those countries have concluded from their investigations that toxoplasma is a significant cause of abortion, prematurity and early postnatal fetal mortality. Whether similar circumstances exist among certain population groups in the United States is still a question to be determined. To answer this question serologic studies are not suf-

ficient. The high incidence of positive serologic test titers among females in the childbearing age group in many countries precludes such studies or makes the interpretation of results most difficult.¹¹

A large number of serologic surveys in Europe have been reported in which the authors compared the prevalence of positive toxoplasma serologic test titers in women with and without histories of habitual abortion.¹³ Some results suggest a cause and effect relationship between toxoplasmosis and abortion, whereas the results in others appear to show no such relationship. The reported variations in the results of serologic studies in perpetual aborters may be actual, or in the absence of properly matched controls, may be due to differences in populations from which the patients were chosen. If the proportion of cases of habitual abortion caused by toxoplasma is small and the incidence of toxoplasma antibody titers in the control population is high, it may not be possible to differentiate toxoplasma as a cause for the abortions.¹¹ Controls must be chosen carefully and should include persons of the same age who live in the same area as the patients being studied. In addition, every attempt should be made to rule out causes of abortion unrelated to toxoplasma infection, such as anatomic defects or other abnormalities.

The most credible yet most difficult approach is that recently accomplished by an investigator in Germany who combined serology studies, treatment and isolation in an attempt to clarify the enigma. In one study of five women who miscarried between the 14th and 34th weeks of pregnancy, toxoplasma was isolated either from the fetus or from the uterine contents of the mother postpartum. The samples included placenta, fetal brains, fetal fluids, uterine fluids, menstrual blood and uterine wall scrapings obtained by curettage.

Four of the five women were multiparous and their case histories are remarkable for the difficulty that they had had throughout a long period in bringing a normal, healthy infant to term.

Recently the same investigator again has isolated toxoplasma nine times in a total of

33 abnormal births. This extraordinarily high incidence is attributed to the selection of cases which was limited to women with a history of repeated abortions and with positive toxoplasma serologic findings.

From reports in the literature, toxoplasma is held responsible for as many as 3.0 per cent of all abortions and stillbirths to as few as 0.3 per cent. These figures are based on cases in which it has been possible either to isolate the organism by animal inoculation or to observe it in section together with typical lesions.

The wide range in these estimates is due in part to differences in the methods employed, in part to the selection of cases and possibly also to true differences in incidence in different areas.¹⁴

If we were to assume one per cent incidence for toxoplasma-caused abortions in the United States and multiply it by the percentage estimated for embryonal deaths that occur in the prenatal period (ten per cent), it would be calculated that 4,000 to 5,000 deaths yearly may be caused by toxoplasma.¹

These figures certainly are indicative of toxoplasma as an important cause of fetal deaths. Of course, this is only an approximation and accuracy cannot be established definitely by the present research information available. The fact that these figures may be true is very alarming and indicates that further studies are needed to solve the problem.

SUMMARY

1. Data from animal experiments establish that toxoplasma can be transmitted from chronically infected animals to their offspring *in utero* despite high levels of circulating anti-toxoplasma antibodies in the mothers.

2. Animals giving birth to toxoplasma-infected offspring may do so repeatedly in subsequent generations; and, in some cases,

the infected female offspring may transmit the parasite to the next generation.

3. The mechanisms by which the parasite traverses the placenta are unknown.

4. The incidence of toxoplasma is known to vary among different populations or socio-economic groups, thus possibly accounting for the variable findings reported by investigators in various locales.

5. Twenty to 25 per cent of fertile American women in their reproductive period have come in contact with toxoplasma. Some of these transmit the infection to their offspring, with resulting abortions, stillbirths and perinatal deaths.

6. The frequency with which toxoplasma produces abortion and fetal death has not been established. Figures of as few as 0.3 per cent to as many as 3.0 per cent have been encountered.

7. It will be of interest to determine how much toxoplasma contributes to sterility through the causation of fetal death. An allied problem of particular interest will be to determine whether the problems of certain women with histories of repeated unsatisfactory pregnancies can be attributed to toxoplasma infection. □

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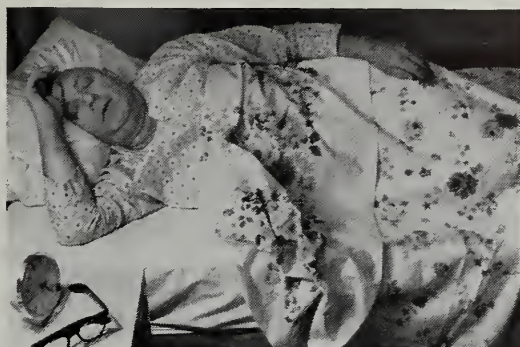
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BP reductions in the recumbent and sitting positions often are nearly as great as in the standing. In clinical trials, the average *recumbent* BP reduction was 36/18 mm. Hg.



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In clinical trials, the average reduction in standing blood pressure was 45/22 mm. Hg.; in the sitting position it was 48/20 mm. Hg.; and in the recumbent position, 36/18 mm. Hg.

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INDICATIONS: Eutron (pargyline hydrochloride and methyclothiazide) is indicated in the treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. It is not recommended for use in patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone.

CONTRAINDICATIONS: Eutron is contraindicated in patients with pheochromocytoma, advanced renal disease, paranoid schizophrenia and hyperthyroidism. Until further experience is gained it cannot be recommended for use in patients with malignant hypertension, children (under 12 years of age), or pregnant patients.

The concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyl dopa. A drug-free interval of two weeks should separate therapy and use of these agents.

WARNINGS: Pargyline hydrochloride is a monoamine oxidase inhibitor. Patients should be warned against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When it is necessary to administer alcohol, narcotics (notably meperidine), antihistamines, anesthetics, barbiturates and other hypnotics, sedatives, tranquilizers, or caffeine, these agents can be used cautiously at a dosage of $\frac{1}{4}$ to $\frac{1}{2}$ the usual amount. Avoid parenteral administration where possible. Withdraw pargyline two weeks before elective surgery.

Patients should be warned about the possibility of postural orthostatic hypotension. Those with angina or other evidence of coronary disease should not increase physical activity. Pargyline may lower blood sugar. Potassium depletion is unlikely at the recommended dosage, but if it occurs, adjust dosage or withdraw or provide added natural food sources of potassium; potassium tablets should be avoided wherever possible, as bleeding or obstructive ulceration of the small bowel has

been associated with their use; potassium levels should be especially watched if the patient is on digitalis or steroids, or if hepatic coma is impending.

PRECAUTIONS: When determining the antihypertensive effect of Eutron, blood pressure should be measured while the patient is *standing*. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Pargyline has not been shown to cause damage to body organs or systems. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. The drug should be used with caution in patients with liver dysfunction. With prolonged therapy, examine patients for change in color perception, visual fields, and fundi.

Elevated blood urea nitrogen, serum uric acid or blood sugar are possibilities attributable to the methyclothiazide in Eutron. Methyclothiazide may also reduce arterial response to pressor amines. Blood dyscrasias, including thrombocytopenia with purpura, agranulocytosis and aplastic anemia, have been seen with thiazide drugs.

SIDE EFFECTS: The use of pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extra-pyramidal symptoms have been reported. Drug fever is extremely rare. Congestive heart failure has been reported in a few patients with reduced cardiac reserve. Nocturia has been observed with the combination. If side effects persist, despite symptomatic therapy or reduction of the dose, discontinue the drug.



512214

The Present Role of Radiation Therapy in the Treatment of Carcinoma of the Lung

SEYMOUR H. LEVITT, M.D.

The most useful role of radiation therapy in the treatment of bronchogenic carcinoma is palliation. Radiation therapy can occasionally be a curative agent in this disease.

THE ROLE of radiation therapy in the treatment of bronchogenic carcinoma is somewhat controversial. In order to evaluate this role, the questions of whether radiation therapy can cure the disease, prolong the life of patients, or palliate symptoms must be answered.

In order that radiation therapy be considered effective it must offer some improvement over the natural course of the disease and it must be compared to the presently accepted method of treatment. To evaluate efficacy in the palliation of symptoms, the percentage of patients relieved of the symptoms and the length of palliation must be analyzed. In order to be considered an effective palliative agent, a reasonable percentage of symptomatic patients must show some improvement for a period which would justify the time necessary for adequate treatment.

Bignall¹ compared the survival of untreated patients to that of patients treated sur-

gically, with radical radiation therapy, and palliative radiation therapy. He noted that patients treated surgically were mostly patients without obvious metastasis. Patients receiving radical radiation therapy had, generally speaking, no extra-thoracic metastases and were in good general condition. Patients treated for palliation had either extra-thoracic metastases or were in poor general condition. The untreated patients were those in whom it was considered that radiation therapy or surgery would be of no help because of the advanced state of the disease. Table I shows the results of the various treatments.

Evaluating the cure rate of any method of treatment in this disease may be difficult because occasional survivors without treatment do exist; and the diagnosis of bronchogenic carcinoma may be in error. Smithers^{26, 27} reported rejecting the diagnosis of bronchogenic carcinoma in 8.5 per cent of the patients referred for treatment. These patients had been referred by specialists in thoracic disease and had undergone a thorough work-up including x-ray in all cases and bronchoscopy in most. Since the one-year survival of this "erroneously" diagnosed group was 50 per cent and three-year survival was 24 per cent, the effect on survival statistics when such a group is included in a series would be considerable.

Other factors which must be considered in evaluating the role of any treatment in bronchogenic carcinoma are those which for some reason, tend to improve the prognosis.

From the Department of Radiology, Division of Radiation Therapy, University of Oklahoma Medical Center.

Resection	No. at risk	Died in Period	Un-traced	Alive at end of period	Surv. rate (%)
1 year	396	141	4	251	63
2 years	310	159	2	149	48
3 years	227	137	3	87	38
4 years	139	94	1	44	32
5 years	63	43	—	20	(32)
Radiotherapy, "Radical"					
1 year	168	93	—	75	45
2 years	141	120	—	21	15
3 years	112	103	—	9	8
4 years	68	65	—	3	(4)
5 years	38	38	—	0	(0)
Radiotherapy, "Palliative"					
1 year	406	322	8	76	19
2 years	316	295	6	15	5
3 years	236	229	3	4	2
4 years	158	155	1	2	1
5 years	91	90	1	0	(0)
No Resection or Radiotherapy					
1 year	779	151	16	135	17
2 years	635	601	8	26	4
3 years	485	477	2	6	1
4 years	312	309	1	2	1
5 years	151	151	—	0	0
Total					
1 year	1,749	1,194	28	527	30
2 years	1,402	1,175	16	211	16
3 years	1,060	946	8	106	10
4 years	677	623	3	51	8
5 years	343	322	1	20	6

Table 1

The Survival Rates from First Attendance at the Brompton or Royal Marsden Hospital⁴

These include the histology of the tumor (squamous), the location of the tumor (upper and middle lobe), and the age group (older) of the patients.

CURATIVE THERAPY

(1) *Operable Patients*: Only two attempts have been made to treat surgically operable patients by radiation therapy alone. Thirty-eight such patients were treated by Hilton^{14, 15, 16, 25} with 250 KV radiation. All patients had a positive diagnosis made either by bronchial biopsy or positive sputum. Twenty-four patients had squamous cell carcinoma, nine had anaplastic carcinoma, four were of undetermined type and one had adenocarcinoma. Eight of the 38, or 21 per cent, survived for five years. One patient lived over nine years.

Hilton observed that there was a small number of cases of bronchogenic carcinoma in which the disease remained localized within the thorax for a considerable time. Patients in this group are the ones whom it was perhaps possible to cure with radiation therapy. In the majority of patients with bronchogenic carcinoma, the disease already has spread outside the thorax by the time the patient is seen and is incurable by any method presently available.

Morrison, *et al.*,²¹ reported in 1963 on 58 randomized operable patients treated alternately with supervoltage radiation or surgery. He found that seven per cent of the patients treated with radiation alone survived over four years. Surgically treated patients had a 23 per cent four year survival. He concluded that surgery is the treatment of choice for patients with bronchogenic carcinoma.

(2) *Inoperable Patients*: There are numerous reports in the literature in which inoperable patients have been treated for cure with radiation therapy alone.^{3, 4, 7, 11, 12, 13, 17, 18, 19, 20, 21, 28} Five-year survivals of six to eight per cent have been noted. Guttman¹³ recently reported on two groups of patients with inoperable lung lesions treated with supervoltage radiation. In one group, the tumor was found to be inoperable at surgery and no further surgery was done. In the second group, part of the tumor was left behind or cut through at the time of lobectomy or pneumonectomy. All patients were treated with post-operative radiation therapy. Patients who had tumor cut-through or tumor left behind had symptomatic relief but no patient survived longer than 13 months. In those patients who had an exploratory thoracotomy only, radiation therapy resulted in symptomatic relief, a 57.9 per cent one year survival and 7.4 per cent five year survival. It was postulated that the partial removal of tumor is not beneficial to the course of the disease and that it would be wiser not to remove tumor if the patient was considered not resectable but to rely on radiation therapy alone.

In 1960,¹⁹ Morrison reported on the results of supervoltage irradiation on 277 patients inoperable for surgical or medical reasons but still in reasonably good general

health and with no evidence of spread of disease outside the thorax. He reported a six per cent overall five-year survival. His best results were in patients with squamous cell carcinoma and with no evidence of mediastinal spread. He concluded that supervoltage radiation therapy for cure was indicated in those patients with inoperable disease who were in good condition and who have a squamous carcinoma.

(3) *Pre-Operative Irradiation*: The control of local bronchogenic carcinoma by x-ray has been noted by many radiotherapists. Several attempts have been made in the past and are presently underway to combine this local control of the disease by x-ray with radical surgery.

Bloedorn,⁶ and Paulson,²³ have recently reported on combined pre-operative irradiation and surgery in the treatment of bronchogenic carcinoma. Bloedorn treated 190 histologically diagnosed and two non-histologically diagnosed patients at the University of Maryland Hospital. Over one-half of these patients were originally considered inoperable. In all cases the disease was localized to one side of the chest. Patients with positive scalene or supraclavicular biopsy were included, but those with malignant pleural effusion were not. All patients were treated with a Telecobalt 60 unit. Approximately two months following radiation, the patients who had not developed demonstrable metastases were operated and had either pneumonectomy or lobectomy when possible.

Of the original 192 patients, 94 did not receive surgery (17 refused, 50 developed distant metastases and 27 were considered poor risks). Of the 98 patients who com-

pleted the course of radiation therapy and came to surgery, 39 had been originally considered inoperable. At operation, 82 patients were resectable and sixteen were not. Of the 82 patients completing the entire course of pre-operative x-ray and surgery, 19 or 23 per cent of the patients were alive over a period of one year when last reported.

It was also found that all patients with positive supraclavicular or scalene lymph node metastases and/or recurrent laryngeal or phrenic nerve paralysis developed distant metastases before reaching operation. The authors felt that when disease had reached this stage it was already generalized. It was also noted that patients who had complete lack of appetite, considerable weight loss, sallow color, and marked asthenia did not do well. This particular method of treatment showed some promise in the patients who were inoperable prior to x-ray treatment but showed no advantage in patients clinically operable prior to x-ray. The authors suggested that a randomized study be done with more biometric controls to evaluate their findings.

Paulson, *et al.*,²³ reported on the use of pre-operative irradiation in the treatment of superior sulcus tumors (Pancoast) and for carcinoma involving the hilar and mediastinal areas. In the treatment of superior sulcus tumor, an attempt at histological diagnosis was not made. Diagnosis was based on clinical and x-ray findings. Treatment was given by supervoltage radiation and was followed in four to six weeks by operation.

Thirty-one patients with superior sulcus lesions were treated pre-operatively and of these, 24 had resection completed. Five out of the 12 patients treated over two years prior to the report were still alive and without evidence of recurrence or metastases two to five years later. Five of the 12 undergoing treatment less than two years prior to the report were still alive and well. The previous experience at that institution had been that the longest survivals after diagnosis and no treatment was ten months; after irradiation alone, 13 months; and after resection followed by irradiation, 27 months.

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Doctor Levitt is a member of the American College of Radiology and the Society of Nuclear Medicine.

Patients with hilar lesions were treated with x-ray and followed in four to six weeks by operative resection. The observation period was considered too short for significant data in patients with hilar disease, but of seven patients considered inoperable, five were operable following the treatment.

(4) *Post-operative Irradiation*: Routine post-operative irradiation has not proven successful. Paterson²² reported on a randomized series of 202 patients treated post-operatively. Approximately one-half had pneumonectomy alone and the other half had pneumonectomy followed by 4,500 rads tumor dose. There was no significant difference in the five-year survival of either group.

PALLIATION

The efficacy of radiation therapy as a palliative agent can be measured in two ways:

1. The prolongation of life in non-surviving patients.
 2. Relief of symptoms.
- (1) Prolongation of life in non-surviving patients

In order to evaluate the efficacy of radiation in this aspect, a prospective randomized series should be examined. For various reasons, this has proven quite difficult; and a retrospective series must, therefore, be examined.

Signall^{3, 4} compared 207 treated patients with 248 non-treated patients. In order to compare the groups as closely as possible, all patients with evidence of extrathoracic metastases and who lived less than one month were excluded. The treated groups were divided into those receiving 1,000 to 4,000 R tumor dose and those receiving 4,000 R or more tumor dose. The untreated patients were divided into corresponding groups by separating them into those living less than four months and those living more than four months. Both treated and untreated groups were further divided into subgroups based on whether or not they had mediastinal metastases when first seen. This study showed that the greatest difference between treated and untreated patients in

duration of life was in those patients without mediastinal metastases treated with 4,000 R or more tumor dose. Of these latter patients, 35 per cent lived one year, and 15 per cent, two years compared with 24 and six per cent respectively of the untreated patients. Treated patients with mediastinal metastases and those treated with less than 4,000 R did little better than the untreated comparative group. This study concluded that there was suggestive evidence that radiotherapy prolonged the life of some patients in the series, but that it was highly unlikely that the larger doses of radiotherapy given to the most favorable patients produced as much as ten per cent increase in proportion of those patients surviving one year, and five per cent increase in proportion of surviving two years after first being seen. The study did not evaluate the comfort or quality of survival of the treated patients during this period of prolonged survival as compared to that of the non-treated patients.

(2) *Palliation of Symptoms*: The palliation of symptoms probably serves as one of the most useful functions of radiation therapy. The symptoms of superior mediastinal syndrome, cough, hemoptysis, dyspnea, dysphagia and some types of pain can be relieved in the majority of the cases.

Superior vena caval obstruction is the most easily and frequently relieved symptom. Eighty to ninety per cent of the patients respond. Cough is relieved in 50 per cent of the cases, hemoptysis, 75 per cent, dyspnea, 50 per cent and dysphagia, 60 per cent. Pain relief varies depending on the mechanism or production. Visceral pain responds at first but is not relieved very long. Brachial plexus pain, i.e., nerve pain, is the most difficult to palliate. Pleural pain is most easily relieved. Bone pain due to metastases is also effectively relieved.

The length of palliation is important since a short period of palliation which requires prolonged treatment would be of questionable value. The length of palliation varies from one to three months depending on the symptoms and mechanism of production.¹⁰ Further evaluation of these findings would seem indicated.

IS SUPERVOLTAGE RADIATION SUPERIOR TO ORTHOVOLTAGE RADIATION?

Most radiotherapists feel that supervoltage (over 400KV) radiation does have an advantage over orthovoltage (under 400KV) radiation. In addition to the expected decreased skin reaction, there is increased depth dose, decreased integral dose and fewer constitutional symptoms in the patients treated with supervoltage as opposed to those treated with orthovoltage radiation therapy.

DISCUSSION

The question of whether radiation therapy can be a curative agent in treatment of bronchogenic carcinoma must be answered with a very qualified yes. From the studies previously discussed, we find that this disease can be controlled locally and cured in a small number of cases. Results in treating operable lesions with radiation therapy alone do not approach those of surgery. It is only a feasible and reasonable method of treatment for those patients in whom for some reason surgery cannot be done or is refused.

There are other patients who have inoperable lesions who also should be considered for radical radiation therapy since there have been five-year survivals of between five and six per cent in this group. Radical radiotherapy might be indicated in patients with inoperable disease who are in good physical condition, who have not had spread of the disease outside the hemithorax, who do not have positive scalene or supraclavicular nodes, and who do not have phrenic or recurrent laryngeal nerve paralysis. Radical treatment for more advanced disease is not reasonable. Intensive radiation therapy may have morbidity and complications connected with the course of treatment. These may include "radiation sickness," esophagitis and pneumonitis, among others.¹⁷

Radiation therapy has a role although its place is uncertain at this time in the pre-operative treatment of bronchogenic carcinoma. The recent evaluation by Bloedorn of his results are not encouraging when the overall picture is viewed but this should not discourage further investigation which is

being carried on at this time. Paulson's work with superior sulcus carcinoma is most encouraging and this aspect of treatment should be followed actively.

There does not appear to be any advantage to routine post-operative irradiation. On the other hand, incomplete resection followed by radiation therapy seems to be less effective in prolongation of life than radiation therapy alone and, indeed incomplete resection would seem to be contraindicated according to Guttman's recent report.¹³

Radiation therapy probably increases survival time in patients with inoperable disease. The only well-controlled series demonstrated orthovoltage radiation therapy treatment probably led to an increase in about ten per cent in one-year survival and five per cent in two-year survival in the most favorable patients. Many recent studies show an increased survival in inoperable patients treated with supervoltage irradiation and higher dosage. There is some controversy which remains to be settled as to whether patients with mediastinal involvement are helped.

There should be no doubt that significant palliation of symptoms can be obtained in the majority of patients for sufficient time to be considered worthwhile. The length of the symptomatic palliation has not been evaluated in recent studies and further work on this aspect should be done.

At the present time in this institution we are reviewing our previous results and have a study underway to evaluate the relief of symptoms and prolongation of life with various time-dose relationships or radiation therapy. This latter study is being done in a randomized manner and we plan to report some of our findings soon.

CONCLUSION AND SUMMARY

A review of the pertinent literature pertaining to the role of radiation therapy in the treatment of bronchogenic carcinoma has been undertaken. We would like to present the following conclusions:

1. Surgery is the present treatment of choice for bronchogenic carcinoma. Intensive radiation therapy can be and should be

used as a curative agent for those patients with bronchogenic carcinoma who are inoperable because of medical reasons or who are operable but refuse surgery.

2. Thus far, there is no definite evidence to indicate that pre-operative intensive radiation therapy significantly increases survival when used in the treatment of patients who are originally operable.

3. There is some evidence to show that intensive pre-operative irradiation may improve the prognosis in patients with bronchogenic carcinoma who are inoperable because of mediastinal spread. However this has not been conclusively demonstrated.

4. There is some evidence that pre-operative radiation improves the prognosis in patients with superior sulcus tumors.

5. There does not appear to be any improvement in prognosis in patients with positive scalene or supraclavicular nodes, or recurrent or phrenic nerve paralysis, when treated by intensive pre-operative radiation therapy.

6. There is some recent evidence to show that a small percentage of patients with evidence of mediastinal involvement by bronchogenic carcinoma can be cured by the use of intensive radiation therapy. It should be noted, however, that the only attempted randomized series did not demonstrate any improvement in survival in patients who had mediastinal involvement.

7. Routine post-operative therapy does not appear to offer any advantages.

8. Incomplete resection followed by radiation therapy is less beneficial than radiation alone in patients with inoperable disease. Indeed, incomplete resection seems to worsen the prognosis.

9. Symptoms of superior vena caval obstruction, cough, dyspnea, hemoptysis and pain can be relieved by palliative radiation therapy. Because of the poor prognosis as to survival in these patients, the therapy should be given as rapidly as possible consistent with the comfort of the patient.

10. The overall results of treatment in this disease are poor. It does not seem likely

that there will be any major change in prognosis until newer methods or new combinations of present methods are found which will have a more significant effect on the disease, or on those etiological factors which act on the body to produce this disease. Until that time, the role of radiation therapy will be a most important one. □

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ABSTRACTS

COMBINED DIURETIC THERAPY

A relatively new diuretic, triamterene, has potent anti-aldosterone activity insofar as renal excretion is concerned. Because it incites very little potassium loss, it was tried in combination with hydrochlorothiazide to see if the combination would be a useful diuretic which would avoid the hazard of thiazide-induced hypokalemia. Twenty-three patients with chronic congestive heart failure were treated for three months with such a combination. All had been successfully controlled by a thiazide diuretic with potassium supplementation and were edema free at the onset of the study. A blood count, urinalysis and determinations of serum potassium and blood urea nitrogen were made at the beginning and at two to three week intervals thereafter. After three months of treatment with the triamterene-hydrochlorothiazide combination, four patients were then treated for two weeks with a thiazide diuretic in the same dosage which had controlled their edema prior to the study. In each case, there was a rapid accumulation of edema and the recurrence of symptoms of congestive heart failure. All responded quickly to the combination therapy when it was restarted.

While it was found that the combination was effective in promoting water loss without potassium depletion, azotemia occurred in about half of the instances, probably as a result of decreased glomerular filtration which is associated with triamterene therapy. This last feature caused the authors to temper an otherwise enthusiastic endorsement of the combination.

REVIEWER'S NOTE: The iridescent effectiveness of potent new drugs often blinds us to their noxious capabilities. Nevertheless, careful investigation ultimately may establish legitimate indications for such agents. None of us would wish, for example, to abolish the adrenal cortical steroids, but most of us can recall the sometimes unwise use we put them to until their activities became fully known.

Combination of Triamterene and Hydrochlorothiazide in the Treatment of Congestive Heart Failure. Hilli Sevelius and J. Palmer Colmore. *Journal of New Drugs* 5: 43-50 (January-February) 1965.

HEPARIN, BLOOD, AND CORONARY DISEASE

Among the persons studied in the Neurocardiology Center who have suffered myocardial infarctions so far, two interesting observations have been recorded. The first is that men under 60 years of age have usually experienced a period of emotional tension before or during their infarction, while those over 60 have not. The second is that the electrophoretic mobility of beta-lipoprotein is much greater after they have been treated with an injection of heparin than it was before the infarction. That heparin exerts a number of effects on the blood is well known, and its action in in-

creasing the mobility of the beta-lipoprotein extends for periods far beyond the time of "fat-clearing." In the experience of the author, patients who had positive assays for lipid mobilizing factor were also likely to have decreased beta-lipoprotein mobility. It is therefore suggested that the effect of heparin in altering the electrical activity of the lipoprotein is a reflection of an entirely altered state of all the plasma colloids. When the lipid mobilizing factor of the beta-lipoprotein mobility were simultaneously measured in 86 consecutive clinic visitors, it was found that patients having the least mobility of lipoprotein were most likely to have positive assays for lipid mobilizing factor, and that patients with this combination had the highest incidence of myocardial infarctions.

REVIEWER'S NOTE: Recently we reviewed the report of Conrad, *et al.*, who treated a group of post-myocardial infarction patients with Coumarin anticoagulant drug. It would seem from Doctor Groover's article that keeping the blood from clotting is only one small aspect of a highly complex interaction within the vascular colloid system and it would be interesting to know if Coumarin induces similar effects to those brought about by heparin. That the emotional state of the patient having (or about to have) an infarction has much to do with it is less well documented in this report.

Heparin and the Electrophoretic Mobility of Beta-Lipoprotein in Coronary Disease. Marshall E. Groover, Jr. *American Journal of Cardiology* 15: 13-16 (January) 1965.

RECENT PUBLICATIONS

The *Journal* welcomes the opportunity to list current publications by any Oklahoma physician.

Defective Fibrinase Activity in Two Brothers. J. W. Hampton, R. W. Bird and D. M. Hammerstein. *Journal of Laboratory and Clinical Medicine* 65: 469, 1965.

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Apparatus for Group Concept Identification and Verbal Interaction. V. Pishkin and J. A. Foster. *Journal of Clinical Psychology* 21: 104, 1965.

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Significance of Antibody to DNA in Systemic Lupus Erythematosus. Salvador P. Casals, George J. Frien and Lynn L. Myers. *Arthritis and Rheumatism* 7: 379, Aug. 1964.

Abdominal Aortic Grafts. John A. Schilling, Helen M. Shurley, Walter Joel, Betty White, Reagan H. Bradford. *Annals of Surgery* 159: 819, June 1964.

BOOKS AS CLINICAL TOOLS

CLINICAL SCHOLARSHIP: AN UNDERDEVELOPED ART

KELLY M. WEST, M.D.

In previous articles we have pointed out that the quality of medical care will be increasingly influenced by the capacity and diligence of the doctor in using books as clinical instruments. In spite of this a substantial share of physicians seem to have distinctly atrophic capacities for clinical scholarship.

There are several reasons why many physicians devote so little time to patient-related learning. They may be under heavy pressure to provide service to a large number of patients and even a small percentage may be too lazy or greedy to invest their time in such pursuits. Clinical scholarship is relatively unrewarding for some physicians because they are not sufficiently familiar with the language and principles of modern medical science. But probably the most important factor is the inefficiency with which it is performed.

Using the literature in clinical practice is in itself both a technical skill and an art. In our observations at the Medical Center we have attempted to evaluate the efficiency and competence of students and physicians in rapidly retrieving from the literature the kind of information which can be brought to bear on the problems of the patient at hand. We are impressed with the differences among physicians in their capacities for effectively and promptly mobilizing pertinent information. A second conclusion is that students can be trained and influenced to become better clinical scholars. Particularly they can become more efficient clinical scholars.

Clinical scholarship involves two functions. One is framing the questions and the other is obtaining the answers. This discussion deals only with the process of obtaining answers to specific clinical questions. But another important challenge of medical education is to teach the student how to formulate

and assign priority to the questions posed by a clinical problem.

In general, medical schools have no educational programs designed *specifically* to develop the capacity of the student or physician for clinical scholarship. Usually it is expected that this skill will develop spontaneously by a sort of "osmosis." Particularly is this likely to happen at the resident level where the student may have an opportunity to observe skilled clinical scholars wrestling with clinical problems. Unfortunately the generalist who needs most to develop these particular skills is least likely to have such an opportunity. Even residents in academic centers are at some disadvantage in this respect because faculty scholarship usually does not center directly on individual patients. The full-time clinician-teacher is being replaced by the INVESTIGATOR-teacher whose interests are usually highly specialized. Those of the new generation are excellent scholars and often highly effective teachers but they are seldom clinical scholars. Because they rely heavily on consultations with other subspecialists and because they know their own field so well they have less need for the kind of scholarship which is a function of patient-care. Thus the present climate is excellent for the teaching of human biology and for specialty training but less conducive to the development of a capacity for self-education relating directly to the patient at hand.

For reasons discussed above a large percentage of physicians never achieve sufficient competence as clinical scholars to employ books fruitfully as clinical tools. They find that, for them, seeking information of immediate clinical relevance requires a prohibitive amount of time and eventually they come to regard clinical scholarship as an impractical pursuit. They may go to postgraduate meetings, learn from consultants and read journals regularly. They may engage in all these but they do not effectively exploit their best opportunity to learn continuously. They are scholarly clinicians but not clinical scholars. They may diligently study their specialty field while failing to respond to the academic challenges which relate directly to specific patients. □

One of a series sponsored by the Department of Continuing Education, University of Oklahoma Medical Center.

The Pennsylvania Study

CLARKE STOUT, M.D.
Assistant Professor of Medicine

IN JUNE, 1962, a study of three geographically close but ethnically different communities in northeastern Pennsylvania was begun. Myocardial infarction was the disease of particular interest.

The first community was Roseto, population 1,630, containing approximately 95 per cent Italian-Americans. The majority of the people form a one-class, cohesive society. Socially they have been upwardly mobile since emigrating from Italy in 1880. They are relatively prosperous, since many of the women work. There are two churches in Roseto, one Catholic and one Presbyterian. Three-fourths of the people attend the Catholic church and nearly all were originally Catholic.

The second community was Bangor, population 5,766. Bangor lies immediately adjacent to Roseto and contains a mixture of ethnic types including people of German, Welsh, English, and Italian extraction. Prosperity is waning in Bangor due to a decrease in the market for slate and the lack of development of new industry. A multiple class society exists. Cohesiveness and enthusiasm are not as apparent as in Roseto.

Nazareth, 12 miles from Bangor, population 6,207, was the third community studied. Nazareth is inhabited primarily by people of German descent, including the "Pennsylvania Dutch," and the more highly cultivated

Moravians who were the original settlers in 1740. Nazareth bustles with industry, varying from a guitar factory to an iron foundry and is marked by neatness and prosperity. The majority of the people are Protestant (Lutheran, Moravian, or United Church of Christ) although a number attend the Roman Catholic Church. Nazareth has a multiple class society and appears more sophisticated than the other two communities.

The first goal of the study was to determine the incidence of death from myocardial infarction in the three towns. All death certificates listing rheumatic, hypertensive, arteriosclerotic or other heart diseases as the underlying cause of death (International Classification Codes 400-402 and 410-443) were reviewed for the seven year period from 1955 through 1961. Two other towns (Stroudsburg, population 6,070, and East Stroudsburg, population 7,674) were included to increase the size of the total population sample. An attempt was made to verify each death certificate by searching the records of appropriate hospitals and/or physicians. Additional information was eventually obtained on 75 per cent of the original certificates. The incidence of death from myocardial infarction was considerably lower in Roseto (particularly among the men) than in the other four towns, where the incidence was fairly similar. The incidence of death from arteriosclerotic heart disease without myocardial infarction, hy-

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pertnesive cardiovascular disease and other cardiovascular diseases was essentially similar for the five towns although the numbers of deaths in these categories were too small for a statistically valid comparison.¹

The distinct differences in the incidence of death from myocardial infarction which appeared to exist between Roseto and the other communities gave considerable impetus to the study of the living population of the three towns which began in December, 1962. The goal was to determine if the low incidence of death from myocardial infarction in Roseto was matched by a low incidence of the disease and to clarify the roles played by ethnic, genetic, social, and dietary factors in the genesis of myocardial infarction. Thus far, 75 per cent of the inhabitants of Roseto, 30 per cent of the inhabitants of Bangor, and 40 per cent of those of Nazareth, over age 21, have been examined. Subjects were first seen on a volunteer basis. Later, in order to correct for the bias of a volunteer population a random sample of the remaining towns' people were examined and the findings compared with the original volunteers. The survey of Roseto has now been completed and valid samples representative of each age group have been examined.

A detailed personal and family history designed to detect diseases of the cardiovascular system was recorded by a physician. He performed a pertinent physical examination including heart, pulse rate, blood pressure, eyes, funduscopy and palpation of peripheral pulses. Venous blood samples were withdrawn for determination of blood glucose, cholesterol level, fibrinogen concentration, fibrinolytic activity, clotting time, hematocrit, red cell packing factor and beta lipoprotein mobility. A standard ECG was recorded on each subject. The capillary oxygen saturation was determined and the response of the oxygen saturation to breath holding was noted. Nutritionists recorded dietary information utilizing individual nutrition history, a seven day food intake diary, observation of families in the home and inventory of foods sold in local markets. The validity of the nutrition interviews was

checked by chemical analysis of food for fat and total calories. A sociologist interviewed each person. Those individuals with evidence of myocardial infarction were studied more extensively as were other members of their families. In Roseto, family trees of the large families were constructed and a special trip was made to examine representative members to assess the weight of genetic factors on the incidence of death from myocardial infarction. The data on the living population of Roseto and Bangor thus far indicated that the prevalence of myocardial infarction among those under age 55 is somewhat lower in Roseto although the discrepancy is not as great as the difference in death rates between the two towns.

In order to further verify the death rate data in the relatively small community of Roseto, more years were added to the seven year period of observation already tabulated. Information was collected in two year blocks which were easily verified through the records of hospitals and private physicians. The tabulations for 1962 and 1963 are nearly complete. Observation through 1969 will provide 15 years of verified death certificate information which should be adequate to thoroughly offset any statistical problem created by the small population in Roseto. To further improve the quality of information explaining deaths for each person dying in Roseto or Bangor, a local physician investigates the medical details immediately concerned with the death. He also investigates the pertinent social, financial and other environmental factors which were prominent during life and immediately prior to death. Prospective data will also be available for persons dying after 1963.

Eventually complete information on the incidence of death from myocardial infarction and all other causes of death will be available for Roseto, Bangor and Nazareth. Data concerning ethnic, genetic, religious, dietary, social and other environmental factors will also be available and will hopefully allow inferences to be drawn regarding the genesis of myocardial infarction. □

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MEDICARE COMMITTEE STUDIES OKLAHOMA IMPLEMENTATION

Despite widespread confusion as to how the Medicare law will be implemented and administered, the OSMA's new Medicare Committee is acting with all reasonable speed to make certain the association and its views are well-represented in forthcoming negotiations with government officials.

The committee, created by the OSMA Board of Trustees at the request of the House of Delegates, is comprised of Scott Hendren, M.D., Chairman, Oklahoma City, Donald L. Brawner, M.D., Tulsa, Francis A. Davis, M.D., Shawnee, Joe L. Duer, M.D., Woodward, E. M. Gullatt, M.D., Ada, Robert L. Loftin, M.D., Broken Bow, and Maxwell A. Johnson, M.D., Tulsa. Walter E. Brown, M.D., Tulsa, is serving as consultant to the committee, due to his experience as a member of a national advisory committee to the Department of Health, Education and Welfare.

"To avoid any misunderstanding on the part of association members," Doctor Hendren says, "the committee wants it made crystal clear at the outset that none of us favor this legislation. We have been asked to do a job for the association, and our purpose and objectives are set down for us in the policy statement approved by the House of Delegates on October 24th."

The Oklahoma City internist referred to the policy statement on Public Law 89-97 which was prepared by the association's Council on Public Policy and approved by the Delegates at a special called meeting.

The policy statement decried the passage of the Medicare law, terming it "imperfect legislation of gross magnitude . . . (that) establishes principles which unnecessarily inject the government into the lives of patients and physicians." However, the statement recognized the existence of the law, for better or for worse, and observed that "Physicians may

observe deleterious laws without respecting them."

Delegates pledged the association's efforts toward the eventual modification or repeal of Public Law 89-97, but in the meantime, the following summarized observations and procedural steps were outlined:

Policy Outlined

- A physician, acting independently and not in concert with others, is free to decide for himself whether or not he chooses to accept any person as a patient under the terms of the law.

- A physician choosing to care for a Medicare patient, has the lawful option of either billing the patient directly for the services rendered, or accepting an assignment from the government's fiscal intermediary. (In the first instance, the government will pay an allowance to the patient on the basis of his receipted bill, but the physician is not bound to a fixed charge for his services. If an assignment is taken, the government will pay 80 per cent of a charge determined to be reasonable, and the physician can bill the patient for the 20 per cent balance).

- The association will oppose any regulation which will interfere with the independent professional judgment of the physician regarding the decision to authorize hospitalization only on the basis of medical need.

- The value of medical services shall be determined by the seller and not by the purchaser.

- Any attempt through the Medicare law to modify the traditional physician-patient relationship, to violate the patient's right to privacy, or to impair the physician's professional judgment shall be vigorously opposed.

- Utilization review committees, as required in the law, must be composed of practicing physicians.

- Hospital-based specialists are physicians, and their charges should be established, billed and collected

in the same manner as any other physician.

- To represent the association in its relationship with the Medicare program, a seven-member Medicare Committee shall be created. Its activities shall include, but shall not be limited to, the negotiation of the best possible fiscal intermediary for Oklahoma and the development of a fair and reasonable method of compensation for those physicians who wish to participate. The Medicare Committee shall be assisted by an Advisory Group composed of representatives of the various specialty organizations, the Academy of General practice, and the chairmen of various association councils and committees which have parallel interests.

Committee at Work

Immediately following its appointment, the Medicare Committee held its first organizational meeting on November 21st for the purpose of solidifying its objectives and developing a timetable and general plan for their accomplishment. The following decisions were among those made at the November 21st meeting.

- **Selection of Fiscal Intermediary:** The committee decided that the association should use all possible influence to cause the selection of the fiscal intermediary of the medical profession's choice to administer the "medical insurance" portion of the Medicare law. This item was given top priority since the decision on fiscal intermediaries may be made in Washington in the immediate future. The question resolves itself between the relative merits of Oklahoma Blue Shield and one of the Federally-approved commercial insurance companies.

- **Method of Compensation:** Following the appointment of the fiscal intermediary for Oklahoma, the committee decided the next step would be to commence work on a "fair and

reasonable" compensation program, with the ultimate objective to hopefully insure that no physician in the state would be required to take less than his usual and customary fees.

• **Use of the Advisory Group:** To assure all possible harmony within the profession, and to achieve the best solutions to problems, the committee decided to involve the Advisory Group in the selection of a fiscal intermediary and in the development of a compensation plan. In addition, as other problems develop, the committee plans to draw personnel from the Advisory Committee to staff sub-committees which may be necessary in regard to other facets of the Medicare law, such as in the case of utilization review committees.

• **Communications with the OSMA Membership:** To facilitate widespread understanding of the Medicare program throughout the entire medical profession in Oklahoma, the committee decided to undertake the following communications projects:

—To initiate a periodic newsletter to the profession, advising practitioners of developments as they occur.

—To organize regional meetings next Spring, as soon as the Oklahoma implementation of Medicare has been finalized, to acquaint physicians with the details of the program and to remind them of their individual rights.

—To plan and conduct a major program on Medicare in conjunction with the 1966 OSMA Annual Meeting, scheduled for May 13th-15th, in Oklahoma City.

• **House of Delegates Approval:** It is estimated by the committee that a program for implementing the Medicare law in Oklahoma can be completed in January or February, such program to be referred to the OSMA House of Delegates for ratification. (Hospital and medical benefits will be inaugurated in July, while nursing home benefits will not begin until January, 1967.)

December 19th Meeting

As the first priority item on the

Medicare Committee's agenda, a meeting has been established for December 19th for the purpose of making the OSMA nomination for fiscal intermediary in Oklahoma.

The Medicare Committee, its Advisory Group, and the OSMA Board of Trustees will conduct interviews with candidate organizations, following which the OSMA Board will consider and act upon the Medicare Committee's recommendation as to the carrier of choice.

Representatives of Oklahoma Blue Shield and member companies of the Health Insurance Council will make presentations to the physicians as to their plans for administering the program and their recommended programs for the compensation of physicians.

The final decision of the OSMA Board of Trustees will be mailed to the Secretary of the Department of Health, Education and Welfare on December 20th. □

OMPAC Plans Membership Drive

With 1966 elections looming on the horizon, the Oklahoma Medical Political Action Committee is experiencing a resurgence of interest from the state physicians and their wives, and ambitious plans are in progress to conduct a major membership drive early in the new year.

The membership campaign includes two basic aspects.

First, as authorized by the OSMA House of Delegates last May, all state physicians will receive a voluntary dues statement for both the American Medical Political Action Committee and OMPAC in conjunction with their regular billing for OSMA and AMA dues. Payment of the OMPAC-AMPAC statement is optional, and the contribution thus made is not tax-deductible as are professional association dues.

The second phase of the membership drive for 1966 is called a "Person-to-Person Campaign." OMPAC finance chairmen representing both the profession and its auxiliary are being established in every county, and each of these persons will have

the responsibility of "selling" OMPAC-AMPAC memberships to about ten people (the quotas will vary from county to county). With a goal of at least 500 new members from this effort, the "Person-to-Person" program will take place on a prescribed day in February when the local finance chairmen will be asked to devote their entire day to the cause of good government.

It is hoped by OMPAC officials that 1966 will be a bumper year for membership enrollment and election results. "The product of professional apathy has been clearly demonstrated by the 89th Congress," observes OMPAC Chairman Francis W. Hollingsworth, M.D., "where many deleterious health laws were passed with hardly a ripple of opposition. Medicine's voice in the halls of Congress has never been weaker, and turning away from this problem will not solve it. The answer may be found through the full employment of non-partisan political action committees, and the time to get moving is now!

The policy of the Oklahoma Medical Political Action Committee is to require membership in both OMPAC and AMPAC (funds collected by the national committee are redistributed where they are most needed). OMPAC and AMPAC dues may be paid in any one of the following combinations:

OMPAC	\$99	\$75	\$50	\$25	\$10
AMPAC	\$99	\$75	\$50	\$25	\$10
	—	—	—	—	—
	\$198	\$150	\$100	\$50	\$20

Physicians interested in joining OMPAC and AMPAC for 1966 should send their check in the combined amount of their choice, made payable to "OMPAC," and send it to the OMPAC secretary, P.O. Box 75341, Oklahoma City, 73107.

Contributions to political action committees are used for both candidate support and political education. The candidates to be supported are selected by the Board of Directors of OMPAC, comprised of physicians and their wives, and selections are made on the basis of the candidates' merits without regard to political affiliation. □

AMA Requests \$25 Dues Increase

An increase in AMA membership dues, "usual and customary" fees and prevailing fees, abortion and sterilization, billing and payment for medical services, organization of the House of Delegates, and federal health care laws were among the major subjects acted upon by the House of Delegates at the American Medical Association's 19th Clinical Convention held November 28th-December 1st in Philadelphia.

President James Z. Appel in his address to the House on Sunday described medicine's efforts "to guide in the best possible direction the actions that government agencies are now taking to activate existing law (PL 89-97)." He then reviewed the activities and responsibilities of the six technical advisory committees under the Medicare law.

"Their suggestions have been received favorably in most instances," he said. "And we are hopeful that they will be translated into the final published regulations . . . (but) we know that in certain significant instances this will not be true."

The House elected Drew M. Petersen, M.D., Ogden, Utah, to fill an unexpired term on the Council on Medical Service.

Final registration reached a total of 9,423, including 4,619 physicians.

Membership Dues

A \$25-a-year increase in membership dues, effective January 1st, 1967, was endorsed by the House when it was informed by the Board that additional income will be needed by then to avoid deficit spending.

The increase, to \$70 a year for the AMA's 165,000 dues-paying members, will go before the House for final action at the 1966 Annual Convention because AMA Bylaws state that annual dues may be prescribed by the House only for the ensuing calendar year.

Board Chairman Percy E. Hopkins, M.D., told the House that "during 1964 and 1965, the AMA will have incurred an operating deficit of

more than one million dollars." The budget for 1966, he said, is now narrowly in balance.

The 1966 budget calls for spending some 27.6 million dollars, Doctor Hopkins reported, including almost 10½ million dollars on scientific programs, five million on health education and other medical service programs, more than one million to maintain physician records, and an-

OSMA Falls Behind

If the AMA request to raise national dues to \$70 in 1967 is ratified by the AMA House of Delegates next June, it will mark the first time in history that AMA dues have exceeded those of the Oklahoma State Medical Association.

Present OSMA dues are \$57 a year, developed over the years as follows: \$12.00 in 1936; \$22.00 in 1947; \$42.00 in 1948; \$47.00 in 1962 (\$5.00 increase to finance a scholarship and loan fund for medical students); and \$57.00 in 1964 (\$10.00 increase to bolster legislation and public relations activities).

AMA dues were initiated in 1950 at the rate of \$25.00. They were raised to \$35.00 in 1962 and to \$45.00 in 1963, and now the proposal is to add another \$25.00 in 1967. Oklahoma is one of the few states requiring mandatory membership in the AMA.

The AMA now has more than 900 employees, an increase of over 300 during recent years. As a comparison, the OSMA has six employees, a figure which has remained unchanged for twenty years.

other million in the communications program. Travel and meeting costs will exceed two million dollars.

"In a society," Doctor Hopkins said, "which has adopted inflation as a national policy and in which our system of medical care has become a pawn of politicians, it is not realistic to expect that we can limit tomorrow's programs to yesterday's

income. Already demands are mounting from medical societies and physicians for a stronger and more effective AMA. These needs must be met and they must be adequately financed."

Doctor Hopkins said that AMA's income in 1960 was just under 16 million dollars, while in 1966 it will exceed 27 million, an increase of 11 million. "This represents increases of 3.9 million dollars from membership dues, 4.3 million in advertising revenue, and 2.8 million from other sources.

"During this same period," he stated, "the challenges thrust upon the Association required even greater expenditures—from 15.7 million dollars in 1960 to a need for 27.6 in 1966."

In support of the dues increase, the House noted that AMA's dues-paying members provide less than 30 per cent of the Association's income.

"Usual and Customary" and Prevailing Fees

One of the most controversial issues before the House and the Reference Committee on Insurance and Medical Service was the "usual and customary" fee concept and the prevailing fees program of the National Association of Blue Shield Plans.

The House reaffirmed its support of the "usual and customary" fee concept as the basis for reimbursing physician participants in government programs at all levels of government. It also urged "the individual physician's usual and customary fee concept to all third parties."

It took this action after modifying a Board of Trustees' report on the new "prevailing fees" program of NABSP. The modified report recommended:

"That the concept of the prevailing fees program of the National Association of Blue Shield Plans be noted as one of the methods of compensation in those regions where the prevailing fees program is approved by the local or state medical society."

In its report, the Board recalled a statement adopted by the House at

the 1965 Annual Convention, which recommended that when government assumes financial responsibility for an individual's health care, reimbursement for professional services should be on the same basis as in the case of other indispensable elements of health care.

"Therefore, reimbursement for the services of physicians participating in government-supported programs should be on the basis of 'usual and customary' fees," the statement said.

Abortion and Sterilization

Recommendations for the enactment of legislation to legalize abortion and sterilization under certain conditions were referred to the Board for further study. This action was taken after the House had received a report from the Board containing the recommendations of the Committee on Human Reproduction.

The House did suggest that the AMA can "render a distinct public service in this matter by conferring with other interested groups such as lawyers, clergy, sociologists, legislators, and government administrators."

It concurred in the reference committee's report that "it is not appropriate at this time for the AMA to recommend the enactment of legislation in this matter (abortion) for all states. The problem is essentially one for resolution by each state through action of its own legislature."

The report also stated that "it is true that there are medical implications in such legislative decisions; physicians in each state should freely provide information and guidance on these medical implications. However, enacting laws to integrate the medical aspects with the moral, ethical, religious, economic, social tradition, and other aspects of the problem is clearly the exclusive prerogative and the responsibility of the legislature of each separate state."

In its report the committee said the problems of sterilization "appear subject to the same general considerations as the problems of abortion."

On the problem of contraception the House reaffirmed its 1964 policy statement that "the prescription of child-spacing measures should be available to all patients who require them, consistent with their creed and mores, whether they obtain their medical care through private physicians or tax or community-supported health services."

It also endorsed a statement that "appropriate legislation be enacted, wherever necessary, so that all physicians may legally give contraceptive information to their patients, consistent with the policy statement of December, 1964, and within the judgment and conscience of each individual physician."

Billing and Payment For Medical Services

Eight statements on fees charged by physicians for medical services were affirmed by the House. These are applicable "irrespective of whether such fees are paid by the patient, or paid or reimbursed in whole or in part under Public Law 89-97, or any other third party plan," the House stated. Here are the eight statements:

"1. The intimate relationship between physician and patient is served best without the interposition of any third party carrier, whether in the area of diagnosis and treatment or the payment for these services.

"2. It is the patient's responsibility to deal with third party carriers in the area of financial assistance provided that the physician is at all times mindful of his obligations to the patient under Section 1 of the Principles of Medical Ethics.

"3. The physician-patient relationship is served best when there is an advance understanding regarding the payment for services rendered. However, the physician is ethically free to choose in each case the manner in which he is to be compensated, based upon the exercise of his independent judgment.

"4. The American Medical Association does not approve of any program which may directly or indirectly promote the charging of ex-

cessive fees or which interferes with the physician's right to charge fees commensurate with the services he renders.

"5. The American Medical Association opposes any program of dictation, interference, or coercion, whether direct or indirect, affecting the freedom of choice of the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97, or other third-party plans.

"6. It should be remembered that insurance does not create any new wealth. It merely assists in conservation. Insurance may conserve the ability of an insured person to fulfill his normal financial obligations. It does not enhance his ability to discharge added responsibilities if they are in the form of increased fees. To use insurance as an excuse to revise professional fees upward is but to contribute to the defeat of its purpose. If these indisputable and self-evident facts are not embraced by the entire membership of the profession, then it will have dealt irreparable harm to the whole movement. Also, any such failure might give impetus to whatever demand now exists for forcing rigid benefit schedules on the professional. (The foregoing is from a report of the Council on Medical Service to the House of Delegates at the Clinical Meeting in 1954.)

"7. The charging of an excessive fee is unethical and is contrary to Section 7 of the Principles of Medical Ethics. The physician's fee should be commensurate with the services rendered and the patient's ability to pay. (The foregoing is from a report of the Judicial Council which was approved by the House of Delegates at the Clinical Meeting in 1960.)

"8. It is not contrary to conscience for the physician to consider the patient's ability to pay if he fixes his particular fee within reasonable limits. In matters relating to fees, the physician should try, to the best of his ability, to insure justice to

the patient and himself and respect for his profession. (The foregoing is from an opinion of the Judicial Council in 1958.)"

Gundersen Report

The House approved some of the many recommendations of the Committee to Review the Organization of the House (the Gundersen Committee) but it did not approve a number of others.

Here are the House actions on some of the committee's recommendations:

Size of the House of Delegates. Approved the suggestion that the growth of the AMA House be slowed down after it reaches 250 members. When it reaches that size, the apportionment ratio will be automatically raised from one delegate per 1,000 members, or fraction thereof, to one delegate per 1,250 members, or fraction thereof, in electing further delegates to represent each state association.

• *Reports of Councils and Committees.* Rejected the proposal that reports of the Council on Medical Service and Medical Education be transmitted through the Board of Trustees before being presented to the House.

• *Reference Committees.* Adopted the recommendation that there be three reference committees by name—Amendments to Constitution and Bylaws, Credentials, and Rules and Order of Business—and as many others be appointed "as may be required to consider the items of business before the House."

• *Tenure of Subcommittee Members of Standing Committee.* Approved a change in the Bylaws "to limit to specified terms of one to three years the tenure of members of special committees of the councils and committees of the House, with a limitation of ten consecutive years of service."

• *Committee on Medical Practices.* Concurred in a recommendation that the Committee on Medical Practices be discharged with thanks and its responsibilities "be assigned by the Board to existing councils and committees."

• *Committee on Insurance and Prepayment Plans.* Rejected a plan to make this committee a council of the Board, and the committee was retained under the Council on Medical Service.

• *Tenure of Office of Trustees.* Turned down a proposal that would have affected the tenure of office of AMA trustees.

• *Affairs of Standing Committees.* Directed that a Bylaws change be prepared to remove the privilege of the Councils on Medical Service and on Medical Education of nominating to the Board the secretary of the respective council. Also approved the suggestion that a vice-chairman be elected by each standing committee of the House.

Resolutions to House. Rejected the idea of a resolutions expediting committee and the recommendation that the deadline for resolutions be ten days prior to the House meeting.

Federal Health Care Laws

The House took a number of actions with regard to federal health care laws passed in 1965, such as PL 89-97 (Medicare) and PL 89-239 (the Heart Disease, Cancer and Stroke Amendments). These actions included:

—"That the AMA immediately seek remedial action to delete the requirement in Public Law 89-97 that a patient be hospitalized to establish eligibility for nursing home care."

—"That the AMA immediately seek remedial action to amend Public Law 89-97, Part B, Title XVIII, by deleting the word 'receipted,' from Section 1842—Part 3, Item B, line (ii), and substituting 'such payment will be made on the basis of a method of payment so arranged to preserve and continue the professions current practice of billing.'" Also approved "that the AMA recommend that the Department of Health, Education and Welfare establish that an agreement for payment between the patient and physician constitutes valid evidence of services rendered."

—Authorized a study of the constitutionality of PL 89-97 by calling on the Board to "take such action

as may be necessary and appropriate to provide for the study and investigation of all aspects of PL 89-97 for the purpose of determining possible court action to test the legality and constitutionality of any provision or regulation issued under the law," and authorized the Board to "initiate such legal proceedings as it may deem advisable to implement the purpose and intent of this resolution."

—Endorsed the Council on Medical Services' recommendation "that the state and local medical societies be urged at this time to assume leadership in the establishment of local advisory committees" under the Heart Disease, Cancer and Stroke Amendments of 1965. The House noted that a National Advisory Council under PL 89-239 already has been appointed by federal officials and that the AMA was not given an opportunity to recommend possible appointees to the Council. "Therefore," the House declared, "active physician participation at the state and local levels is of utmost importance."

—Urged HEW to "seek consultation with practicing physicians" in formulating regulations under Title XIX as has been done under Title XVIII of the medicare law. It also instructed the AMA President and AMA Advisory Committee to HEW to "offer and urge such consultation."

—Adopted a resolution that the Board "continue to seek, through all appropriate means, the implementation and administration of federal medical and health programs other than those of the Armed Forces and Veterans' Administration by the Surgeon General of the Public Health Service, and especially those programs under Title XIX of PL 89-97."

—Declared that the AMA Advisory Committee on PL 89-97 and 89-239 should persist in its efforts to achieve "practical recognition" by HEW of the differences between utilization review and claims review. The House adopted a report of the Council on Medical Service which said that "widespread confusion exists between the utilization review func-

(Continued on Page 569)

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tion and the claims review function." It also adopted a series of recommendations in the report aimed at clearing the confusion.

Other Important Actions

A study committee to evaluate planning techniques and development, which was established by the Board of Trustees, was concurred in by the House. The committee was given the tasks of (1) reviewing and studying current planning procedures in AMA, and (2) studying and recommending new mechanisms for organizational arrangements to achieve more effective planning and development in the future. Membership on the committee includes five Board members, the chairmen of the Councils on Medical Service, Medical Education, and Legislative Activities, the Speaker of the House, and two House members selected by the Speaker.

Disapproval was expressed by the House of portions of the Coggeshall report, "Planning for Medical Progress Through Education," published earlier this year by the Association of American Medical Colleges. The House opposed "the basic philosophy" of portions of the report; such as:

—That the AAMC should "serve as spokesman for organizations concerned with education for health and medical sciences" and "no other organization is in a comparable position to bring together and express a comprehensive view."

—That "the professional aspects of education for health and medical sciences should be regarded as an essential function and fully integrated component of university organization, with decreasing dependence upon or control by organized professions and their related associations."

A policy statement on federal aid to medical education was adopted by the House. It urges that (1) a major objective of the policies of the AMA should be to place the control of the full range of medical school functions in their institutional governing bodies, (2) action of the AMA should be designed to achieve this objec-

tive by proposal of appropriate legislation, and (3) the AMA should foster diverse sources of support for medical schools under circumstances that prevent any extramural source from exercising controlling influence.

The House approved a resolution aimed at responding immediately at the national and local levels to statements discrediting medicine. It directed the Board to provide for such response by the AMA and encouraged state and local medical societies to react similarly to statements appearing at the local level and concerning matters within the society's competence and knowledge.

There were scores of other actions by the House. Briefly here are some of them:

- Defeated a proposal to set more stringent requirements for calling a special session of the House.

- Approved a Bylaws change permitting recognition by affiliate AMA membership of physicians "who are members of the chartered national medical societies of foreign countries, to be approved and nominated by the Judicial Council" and members of the press who have served medicine well.

- Approved a resolution calling for continued efforts, through "all appropriate channels," to achieve a separation of billing and payments for professional fees from hospital charges under insurance contracts written by the health insurance industry.

- Urged the American Hospital Association to "assist the hospitals of the U.S. to establish a system of uniform cost accounting and billing."

- Asked that all colleges and universities should have health education programs for their students.

- Commended physicians in government service for "their support of the medical profession and their service to the public."

- Agreed to a re-writing of two sections of a model agreement between hospitals and physicians providing professional services in hospital emergency departments to conform to principles established by the House.

- Approved measures aimed at decreasing substantially the perinatal death rate through perinatal study committees in hospitals.

- Requested state medical associations to act to assure that physicians are properly represented on state Hill-Burton hospital advisory councils.

- Asked the Federal Aviation Agency to change its regulations so that any person applying for a pilot's license would be giving his implied consent to sobriety examinations by aviation officials.

- Adopted a statement by Edward R. Annis, M.D., commending Arthur Hess, the director of the Social Security Administration's Bureau of Health Insurance, for his "wholehearted cooperation" with the AMA's Advisory and technical committees on medicare.

- Decided that AMA Conventions should continue to open on Sunday, and that the inauguration of the incoming president should be held on Tuesday evening of the Annual Convention.

- Instructed the Council on Medical Service and its Committee on Welfare Services to develop for the AMA its definition and principles for the determination of medical indigency.

- Accepted for information an opinion adopted jointly by the Council on Medical Service and the Judicial Council which states that "... when a physician assumes responsibility for the services rendered to a patient by a resident or an intern, the physician may ethically bill the patient for services which were performed under the physician's personal observation, direction and supervision."

- Repeated a previous policy statement urging the creation of a separate post in the Cabinet of the President of the U.S. for a Secretary of Health.

- Commended past-president Edward R. Annis, M.D., for his leadership, his dedication, and his tremendous contribution to medicine's campaign to preserve the world's finest system of medical care."

- Elevated to status of "Council" the Committee on Environmental and Public Health.

- Approved the following schedule of AMA Conventions:

Annual Conventions—1966, Chicago; 1967, Atlantic City; 1968, San Francisco; 1969, New York City; 1970, Chicago.

Clinical Conventions — 1966, Las Vegas; 1967, Houston; 1968, Miami Beach; 1969, Denver; 1970, Boston. □

Annual Meeting Highlights Announced

The general program format for the 1966 annual meeting of the Oklahoma State Medical Association is being shaped into an action-packed three days of high quality scientific programs, general interest meetings, business sessions, luncheons, and social events—not to mention the expansive exhibit area which will house a combination of 81 technical, consumer, scientific and institutional exhibits; an assortment never before observed at any local medical conclave.

Innovations in the meeting are made possible primarily due to the new convention facility available to the OSMA which will house the many activities of the 60th Annual Meeting under one roof. Physicians and wives will be able to attend the May 12th through 15th annual gathering of Oklahoma medical doctors in the convenient surroundings of Oklahoma City's Skirvin Hotel. The hotel is constructing and nearing completion of a new Convention Center which will be the second largest facility of its type west of the Mississippi.

OSMA Business Sessions

The Board of Trustees will meet on Thursday afternoon, May 12th, to conduct their customary annual meeting business, followed by the Trustees annual dinner.

The House of Delegates is tentatively scheduled to meet on Friday and Saturday mornings, with Ref-

erence Committee meetings to be held late Friday afternoon.

Scientific Meetings

Scientific sessions will be held all day Friday and on Saturday morning. Specialty dinners will be held Friday evening.

Tentative plans call for three simultaneous scientific section meetings Friday morning, followed by three more in the afternoon. While specific plans have not been completed, the six section meetings are indicated to be: Internal medicine; general surgery; eye, ear, nose and throat; obstetrics and gynecology; pediatrics; and orthopedic surgery.

Saturday morning's session will feature a program integrating subjects and speakers from each of Friday's sections into a more general scientific session. Indications are that this session will be sponsored in cooperation with the Oklahoma Academy of General Practice.

General Interest Meetings

Saturday afternoon will feature an outstanding program, designed to familiarize physicians, wives, medical students, nurses, medical assistants and exhibitors with the short and long range effects of the new medicare law.

An explanation of forms, regulations, coverages, physician rights and obligations, utilization committees and methods of compensation will be presented by experts in respective jurisdictions. Plans call for presentations on the evolution of the past, present and future developments of medical care programs in England, Canada and the United States. Representatives of the British Medical Association and the Canadian Medical Association will discuss their respective systems and explain the relationship of their systems to U.S. trends.

F. J. L. Blasingame, M.D., Executive Vice-President of the AMA, will conclude the afternoon program by presenting what he considers to be "the Future of Medicine in the U.S.A."

In addition, other general interest programs are being planned for Sunday morning, May 15th.

Social Events and Luncheons

Tentative plans include a Saturday night gourmet-type annual banquet, preceded by an outdoor pool-side cocktail party. Free luncheons for physicians and exhibitors are planned for Friday and Saturday, featuring a "picnic" atmosphere.

Other Attractions

Not only will the usual technical displays from pharmaceutical and equipment manufacturers be presented, but the exhibit area will also feature such versatile attractions as: A wine tasting booth sponsored by the California Wine Growers Association; a Cessna Skylane airplane; Mercedes Benz and Jaguar automobiles; and a luxury power boat.

In addition sporting goods companies, travel agencies and others are expected to participate. To date, 51 commercial exhibit spaces have been sold.

All in all, the OSMA Annual Meeting Committee is working to produce what promises to be the most outstanding conference of its type held in many years. □

Metabolic Testing Committee Organized

At the request of the Oklahoma State Health Department, OSMA President, Rex E. Kenyon, M.D., appointed a special thirteen-man committee to work with and advise the State Board of Health in initiating a statewide educational program which hopefully will lead to routine testing of all newborn in order to detect phenylketonuria and other inborn metabolic disorders.

The Educational Advisory Committee on Metabolic Testing is comprised of ten physicians and three representatives from the Oklahoma Hospital Association.

Legislature Enacts Law

The last session of the Oklahoma Legislature passed into law, Senate Bill No. 87, which requires the State Board of Health to institute and carry on an intensive educational program among physicians, hospit-

als, public health nurses, and the public concerning phenylketonuria and related inborn metabolic disorders, and that measures be taken to prevent mental retardation resulting from such diseases.

Moreover, the State Board of Health is authorized to use its laboratory facilities and to approve private laboratories for the performance of such tests.

The State Board of Health is further directed to make such rules and regulations as medical practice shall indicate, and if sufficient evidence exists (in due time) that the public is negligent in accepting testing practices, they are authorized to make **testing** of all newborn **mandatory**.

The Educational Advisory Committee on Metabolic Testing, chaired by Robert E. Herndon, M.D., of Chickasha, met on October 10th and concluded that a comprehensive survey of all licensed hospitals be taken before instituting an educational program. Such a survey, which will be coordinated by the Oklahoma Hospital Association and State Health Department, will determine the level and methods of metabolic testing presently being performed throughout the state.

The last Legislature also appropriated \$10,000 a year, to be used by the State Health Department for carrying out the educational directives.

Lawmakers Watching for Results

Since many backers and members of the Legislature wanted the law to require mandatory testing, instead of an educational approach, the chief authors of the new law are watching for progress being made, by following the educational approach to testing of all newborn.

Unless reasonable gains are made in the numbers or percentages of newborn tested between now and January of 1967, renewed efforts are expected by various legislators to press for mandatory testing.

In the past year, much emphasis has been observed across the nation where state legislatures are pressing for testing laws. A number of mandatory testing laws were enacted



New officers of the OU School of Medicine Alumni Association are, left to right, Ed L. Calhoon, M.D., Beaver, treasurer; George Ross, M.D., Enid, secretary; Johnny A. Blue, M.D., Oklahoma City, vice-president, and James S. Petty, M.D., Guthrie, president.

ALUMNI ASSOCIATION ELECTS OFFICERS

James S. Petty, M.D., Guthrie, is new president of the Alumni Association of the University of Oklahoma School of Medicine, succeeding Powell E. Fry, M.D., Stillwater.

Doctor Petty, formerly vice-president, was elected during the association's annual meeting October 24th at the Sheraton-Oklahoma Hotel, Oklahoma City. The dinner and dance celebrated the emerald (55th) anniversary of the four-year medical school and also the 75th anniversary of the founding of the University of Oklahoma.

Alumni elected Johnny A. Blue, M.D., Oklahoma City, vice-president; George Ross, M.D., Enid, secretary; Ed L. Calhoon, M.D., Beaver, treasurer; and Charles T. Morgan, M.D., Tahlequah, Harold Thiessen, M.D., Mangum, and Bailey W. Dietrich, M.D., Guymon, trustees.

The principal speaker was James L. Dennis, M.D., dean and director of the OU Medical Center, who dis-

last year in various states.

Recently in Michigan, an \$80,000 judgment was awarded because two pediatricians failed to perform the routine test in order to detect phenylketonuria. It was the first malpractice suit of this type in the nation.

cussed the master plan for Medical Center redevelopment.

Association members endorsed State Question 433, the \$54.75 million building bond issue to be voted upon at a special election December 14th. Of the total, \$51.2 million would be used for capital improvements at colleges and universities, mental institutions, for a new State Department of Health Building and other health purposes.

The physicians also passed a resolution in support of the Oklahoma Medical Research Foundation's plan to begin an educational campaign to acquaint state doctors with its current operations, present accomplishments and future goals.

The resolution noted that "in recent years the Oklahoma Medical Research Foundation and the medical profession of Oklahoma have not maintained the same closeness as characterized the early years" of the foundation. □

According to Doctor Herndon, "once the hospital survey is completed, an intensive effort will be made to educate physicians and others on the importance of bringing about complete testing of all newborn in order to prevent retardation." □

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Group Life Plan Best Available

On April 1st, 1964, a new group term life insurance program for association members was inaugurated by the OSMA Council on Insurance. This plan, underwritten by the Massachusetts Mutual Life Insurance Company, offers basic changes and improvements over the previous program, so that now it is considered as the most economical, broad-benefit life insurance protection available to Oklahoma physicians from any source.

Since the inception of OSMA relationship with Massachusetts Mutual, the death claims paid exceed \$750,000. Since the new program was inaugurated, approximately \$150,000 in death benefits has been paid. At present over 400 association members are enrolled.

Premiums and Benefits

Under the present plan, death benefits range for \$33,125 at age 25, to \$21,625 at age 40, to \$2,250 at age 69. The program provides for a level annual premium of \$125.00 and high death benefits at the younger ages, gradually decreasing as the insured grows older. Formerly, the OSMA-approved Massachusetts Mutual program (since 1956 through March, 1964) provided a level death benefit up to age 60 and markedly increasing premiums.

The unique group term life program offers the following valuable benefits and makes specific guarantees to association members:

- (1) Double indemnity in the event of accidental death.
- (2) Triple indemnity in the event of death while a passenger on a common carrier.
- (3) Waiver of premium in the event of disability through accident or illness.
- (4) Dismemberment and loss of sight coverage.
- (5) Full aviation coverage, regardless of flying experience or status.
- (6) All settlement options of the company are provided, so the OSMA program may be co-

ordinated with other personal life insurance.

- (7) Liberal conversion privileges are included.

Ideal Plan

The OSMA program stands completely apart from competing medical association plans in providing the above benefits. Other plans routinely offer only the basic death benefit and waiver of premium, excluding accidental death coverage, and dismemberment and loss of sight benefits.

All in all, the OSMA term insurance plan economically "fills the gap" which might be present in the physician's portfolio of permanent life insurance. It is also ideal for mortgage liquidation, educational obligations, and survivors' needs.

Surplus Funds Returned to You

Unlike other medical association sponsored programs, the OSMA plan provides that all surplus funds are returned to participants, either in the form of cash dividends, premium credits or expanded benefits. Moreover, the Oklahoma State Medical Association's Council on Insurance exercises unusual control in the management of the plan.

Enroll Now

Physicians interested in taking advantage of this low cost insurance program, with a liberal policy contract and unique benefits, are encouraged to contact Mr. Walter C. Wilson, C.L.U., Administrator, 1280 First National Building, Oklahoma City, Oklahoma. □

Dates, Sites Announced For 1966 Regional Postgraduate Courses

Last year, eight Regional Postgraduate Education Courses were held throughout the state from January through April.

It was the fifth consecutive year that Regional Postgraduate Courses were successfully sponsored and conducted by the Oklahoma State Medical Association through its Council on Professional Education. Over

250 physicians attended the eight study sessions.

The 1966 schedule released by the OSMA Council on Professional Education calls for six regional courses this year as compared to eight in previous years. The reason for reducing the number to six is due to the Council's initiation of two statewide postgraduate education courses, the first which was held at Arrowhead Lodge last September 19th, and the second of which is scheduled for June 10th-12th, 1966 at Fountainhead Lodge.

At the rate of three courses per month during January and February, the Regional Postgraduate Courses are to be held at decentralized meeting sites across the state. They are scheduled for late afternoon and evening in an effort to conserve the physician's time.

The meetings begin at 4:30 p.m. with two hours of lecture, followed by dinner and another two-hour period of lecture and discussion. Faculty members from the University of Oklahoma Medical Center make the scientific presentations.

Each program is approved for four hours credit by the American Academy of General Practice. A registration fee of \$7.50 covers the complete scientific program as well as the dinner.

First Course: January 6th

The OSMA will kick off its sixth consecutive year for sponsoring the decentralized program series with the January 6th Postgraduate Education Course, to be held at Valley View Hospital, Ada. "The Ovary" will be the subject reviewed during the Ada course.

In addition to the opening program, the remaining five regional courses will be held on the following dates, with the corresponding subjects being offered, and at the location indicated:

- January 20th—"The Thyroid," Bartlesville;
January 27th—"The Blood," Altus;
February 3rd—"The Ovary," Woodward;
February 17th—"The Blood," McAlester;

February 24th—"The Thyroid," Enid.

S. N. Stone, Jr., M.D., Chairman of the Council on Professional Education, and Irwin H. Brown, M.D., member of the Council and Director of Postgraduate Education, University of Oklahoma Medical Center, are in charge of the overall planning for the six regional and two statewide educational meetings.

According to Doctor Stone, any member of the Oklahoma State Medical Association may attend any of the offered courses. He cited that pre-registration may be made at the OSMA Executive Office for any of the courses by mailing a check in the amount of \$7.50 and indicating the location where the course is being held.

In addition to Doctors Stone and Brown, other members of the Council on Professional Education are: Doyle Eugene Johnson, M.D., Enid; Ed L. Calhoon, M.D., Beaver; Ralph W. Murphy, M.D., Ardmore; Vernon D. Cushing, M.D., Oklahoma City; Powell E. Fry, M.D., Stillwater; and Walter H. Dersch, Jr., M.D., Shattuck. □

Health Economic Survey Report Due in January

The principal investigator for the Oklahoma Health Economic Survey, Ansel Sharp, Ph.D., Oklahoma State University, announced recently that he will present a progress report in January covering the first phase of the major survey effort. Sponsored by the Oklahoma State Medical Association, the Oklahoma Hospital Association, and the Oklahoma Blue Shield, the survey is designed to develop a profile of the state's health economic character with the ultimate objective of improving the quality and scope of prepaid health insurance protection for Oklahoma citizens.

Since early last Fall, Doctor Sharp has been studying the state population in terms of economic potential and the extent of health insurance protection held or other financial

wherewithal available to meet the costs of illness.

The study was authorized by the Oklahoma State Medical Association's House of Delegates at its 1965 annual session.

A report initiating the project by the association's Prepaid Medical Care Committee was inspired by the realization that the private sector of medical practice was being seriously threatened by governmental inroads, and the report observed that "Unless voluntary health insurance and prepayment plans are perfected to the highest possible degree, medical economic gaps will occur to a limited degree, and the Federal government will rush in to an excessive degree."

It was further pointed out in the report that the three levels of government now account for 25 per cent of all health care spending, a figure which will increase next July with the implementation of Medicare.

On the other hand, the report revealed that voluntary health insurance covers only 77 per cent of the national population (less in Oklahoma) and much of this protection is of inferior quality.

It was concluded, therefore, that the medical profession should assume the leadership in "studying Oklahoma's health economic character, identifying areas of unmet need, and effecting solutions through an expanded employment of the mass-enrollment techniques of Blue Cross-Blue Shield."

In the provisions of the report, a Task Force was created to conduct and supervise the study. B. C. Chatham, M.D., Hayden H. Donahue, M.D., and Tom C. Points, M.D., are representing the OSMA on the Task Force, and other representatives are included from Blue Cross-Blue Shield, the Oklahoma Hospital Association, industry, agriculture and labor. (The governor has been requested to appoint representatives from the last three groups.)

The basic procedure of the survey is to define and conduct a detailed analysis of the various economic areas of the state, and to determine on a sampling basis the ways in

which different classes of people from the economic areas are financing their health care costs. In addition, the classification of types of insurance protection is to be studied and their effectiveness measured. Moreover, the analysis of public and professional attitudes toward health insurance is a part of the survey.

It is hoped that the completed survey will give the three sponsoring organizations an intelligent base from which to operate in strengthening voluntary health insurance and thereby preserving what is left of the financially-independent population.

As a part of the first phase of the project, Doctor Sharp is now studying the hospital records of 2,000 patients selected randomly from the economic areas. From information thus obtained, which will give insight into the manner of paying hospital bills, future surveys to the attending physician and to the patient will provide information on the adequacy of medical expense coverage and the patient's income. □

Welfare Department Expands Program

The Oklahoma Department of Public Welfare is endeavoring to implement new Federal legislation on January 1st which will broaden the scope of the state's health care program for the needy.

Under the provisions of Public Law 89-97 (Medicare), increased Federal participation is authorized for state administered programs. At the present time, Oklahoma is receiving Federal matching funds on about a 50-50 ratio with state funds, but this ratio will be approximately 70-30, Federal to state, under Title XIX of P.L. 89-97.

This increase, amounting to an estimated \$15 million the first year, will be further enhanced by Title XVIII of Medicare, the section providing health benefits under the Social Security Administration. Title XVIII will pay the hospital bills of the elderly with Social Security funds, thus relieving state funds now being used for Old Age Assistance recipients. □

DEATHS

JAMES L. DUNAGIN, M.D.
1919-1965

Superintendent of the Enid State School, James L. Dunagin, M.D., died in Enid, October 23rd, 1965. Doctor Dunagin had held his appointment to the school since May, 1964.

A native of Decatur, Mississippi, he had graduated from Tulane University School of Medicine in 1943. The 46-year-old physician practiced in Newton, Jackson and Hattiesburg, Mississippi before engaging in research work at Tulane University. In 1960, he came to Oklahoma and served on the staff of the University of Oklahoma Medical School.

Doctor Dunagin was a member of the Alpha Omega Alpha and a Fellow of the American Academy of Pediatrics.

ROBERT D. McKEE, M.D.
1914-1965

An Oklahoma City obstetrician, Robert D. McKee, M.D., died November 24th, 1965.

The 51-year-old physician was born in Galveston, Texas and graduated from the University of Texas Medical Branch in 1939. Following residency training in Hawaii, he served five years with the Medical Corps during World War II.

A past-president of the Oklahoma Obstetrical and Gynecological Society, Doctor McKee had practiced in Oklahoma City since 1948. He had been associate professor of obstetrics at the University of Oklahoma School of Medicine. □

itself occupies more than one-fourth of the book. Although this chapter is well written, its figures are repetitive and certainly most of the figures could be deleted without sacrificing much content. On the other hand, the section on the use of unsaturated fatty acids probably deserves more than the passing comment given by the authors.

The book should prove helpful to the pediatrician and the general practitioner. House officers, medical students and nurses should find it informative, but a limiting factor in their personal acquisition of the book is the price which is possibly excessive for its size and contents.—C. R. Cagas, M.D. □

BONE TUMORS. By Louis Lichtenstein, M.D., Clinical Professor of Pathology, University of California, San Francisco. Third edition. cloth. 405 pp., with 251 illustrations, St. Louis; The C. V. Mosby Company, 1965. \$16.75.

The accurate diagnosis of bone tumors continues to be a most perplexing problem for all concerned. This may be because there is such an array of bone tumors to be considered and because one has difficulty in assimilating a "typical" mental picture for each lesion. The third edition of this monograph on bone tumors, in this respect, again presents a comprehensive survey of benign and malignant bone tumors including the clinical, radiographic and pathologic aspects. The classification set forth is of particular aid in dealing with the organization of the many tumors encountered.

The author indicates, in respect to the assimilation of a "typical" radiographic appearance, that the so called "classical" appearance of an individual tumor is quite often a rare occurrence and that one should become familiar with the various manifestations of any single lesion. The radiographic reproductions are extremely helpful in this matter.

The author again emphasizes the need for thorough integration of the clinical, radiographic and pathologic

BOOK REVIEWS

MANAGEMENT OF JUVENILE DIABETES MELLITUS by Howard S. Traisman, M.D., Assistant Professor of Pediatrics, Northwestern University Medical School and Alvah L. Newcomb, M.D., Associate Professor of Pediatrics, Northwestern University Medical School, Chicago, Ill. Cloth, 147 pp. with figures, St. Louis: C. V. Mosby Co., 1965, \$12.75.

This book is intended to provide a concise and practical method of managing the diabetic child. Perhaps its main value is in the emphasis on practical aspects. The authors write with ease and simplicity, making the book very readable. Hardly any topic escapes their attention—the discussion ranges from dog tags to nuclear warfare. The section on urine testing is pursued appropriately with vigor. The chapter on insulin is treated in detail, including a section on the latest insulin preparations. The appendix consists of a primer on fluid and electrolyte therapy and guides to nurses.

At the outset, the pediatrician-authors define today what diabetes should be tomorrow: a chronic disease of inconvenience. They advocate very careful control of the diabetic state to insure normal growth and development and, hopefully, to delay the onset of degenerative complications which inevitably befall the diabetic child in later years. In practice, this may not be easy to apply, particularly for the adolescent diabetic who is inclined to be rebellious to any kind of discipline. This group from Northwestern University, therefore, has set a high goal in the management of juvenile diabetes mellitus, and others will do well to follow certain guidelines set forth in the monograph, but still allow considerable flexibility to suit the individual patient.

Consistently, the authors consider the dietary aspect of paramount importance. They recommend adherence to a rigid program of weighed diets. This approach may not be consistent with current majority views. The chapter on dietary management

findings in evaluating bone tumors. There is, in this respect, an ample aggregation of histologic reproductions and gross descriptions of most of the lesions covered. Pertinent clinical aspects are included in each section and emphasis is placed on the specific field which offers the most aid in the diagnosis of each lesion. Current trends in treatment of the various tumors are included.

This monograph should aid in organizing one's thoughts on bone tumors and serve as a well organized reference to these lesions in the future.—*Len E. Swischuk, M.D.* □

MODERN TREATMENT: "Treatment of Infectious Diseases." Guest Editor, Lowell A. Rantz, M.D., Stanford University School of Medicine, Palo Alto, California. Volume 1, No. 4, July 1964. Paperback, 1033 pp. Harper and Row, Publishers. Subscription: \$16.00 per year.

This publication is the result of a symposium on treatment of infectious diseases and the volume is edited by Doctor Lowell A. Rantz of Stanford University School of Medicine. Doctor Rantz, unfortunately, died unexpectedly while the symposium was in press. Sixteen investigators in the field of infectious diseases have contributed to this volume. It is reasonably well up-to-date and covers several basic and important topics in this area from a practical standpoint. The titles of some of the chapters will designate the general content of the volume: Sensitivity Testing—A Clinical Aid?; Principles of Antimicrobial Therapy; Pharmacology of the Antimicrobiols; Untoward Reactions to Antimicrobial Agents, and chapters on the treatment of pneumonia, meningitis and bacterial endocarditis.

This publication can be recommended as a satisfactory review of certain fundamental topics in the field of infectious diseases.—*Harris D. Riley, Jr., M.D.* □

Insurance Deaths Revealed

The Oklahoma State Medical Association has maintained a group term life insurance program for its members since 1956 (see article, page 573).

Since the inception of the program, forty-one insured physicians have expired. Below are some facts concerning these deaths:

- Five of the deceased were in the 30 to 40 age group; eight were between ages 41 to 50; twenty were 51 to 60; and, eight were 61 to 70.

- All eight of those physicians who were in the 61-70 group died of heart attacks.

- Of the total forty-one deaths, twenty-two resulted from heart attacks.

- Five deaths were attributed to suicide.

- Cancer accounted for five deaths.

- All five cancer deaths were in the 51 to 60 age group; heart attacks were distributed between ages 41 and 70; and three suicides were in the 30-40 range, one in the 41-50 group, and one in the 51-60 bracket.

More than \$750,000.00 has been paid to survivors by the underwriter, Massachusetts Mutual Life Insurance Company, since the inception of the program. □

Miscellaneous Advertisements

BOARD certified surgeon and board eligible anesthesiologist—husband and wife team—wish Oklahoma location. Particularly interested in county hospital or similar institution. Available immediately. Have been engaged in medical missionary work and postgraduate training. Contact Harry J. Weber, M.D., Grant Memorial Hospital, Petersburg, West Virginia 26847.

FOR SALE: Used Westinghouse x-ray, single tube, 100 milliamper, stationary anode. Tilting table, fluoroscopy screen and accessories. Call CE 2-5288. \$1200.

INTERNIST: Board certified or eligible internist to join multi-specialty group. Excellent opportunity with full share in medical partnership after two years; no investment necessary. Solid community with good growth. Four-year Liberal Arts Coeducational College. All inquiries confidential. S. D. Revere, M.D., or W. S. Harrison, M.D., The Chickasha Clinic, Chickasha, Oklahoma.

SENIOR resident in pediatrics desires location in northeastern Oklahoma. Available, June, 1966. Graduate of the University of Oklahoma School of Medicine. Write Key W, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED: Accreditation Representative to conduct general consultation and recommendations to hospitals, extended care facilities and other medical care providers in the Medicare program. College graduate (two years may be substituted by appropriate experience), three years medical administrative experience, one of which must have been as a hospital administrator, assistant administrator or administrative assistant in a general hospital. Salary: \$615.00 per month to \$725.00. Contact Personnel Office, State Health Department, 3400 North Eastern, Oklahoma City, Oklahoma 73105.

FOR SALE: Mattern, 100 milliamper x-ray machine. Approximately one and one-half years old. Rotating anode tube complete with all accessories. Contact James Felactu, M.D., Hillcrest Medical Center, Woodward, Oklahoma.

OFFICE SPACE, 415 N.W. 12th Street, Oklahoma City. 1,200 square feet of prime office space within walking distance of four hospitals. Two ground floor entrances from abundant parking area. New air conditioning and decoration to suit tenant at reasonable rent. 405 CE 5-6315, 9:00 a.m. to 5:00 p.m.

Miscellaneous Advertisements

O.U. MEDICAL SCHOOL graduate, finishing residency in internal medicine in May, 1966, desires Oklahoma location in city of 15,000 to 50,000 population. Would like small group practice or with group of physicians who share work on a cooperative basis. Contact Danny Stehr, M.D., Royal de Ville, Apt. 48, 4101 Norman Mayer, New Orleans, Louisiana.

WANTED: Internist, board eligible or certified to be associated with twelve-man specialty group, salary open, no investment, early partnership, city of 35,000. Write J. D. Wilson, M.D., King's Daughters Clinic, Temple, Texas.

OFFICE SPACE available Southwestern Medical Specialties Building in south Oklahoma City. Nucleus of reputable doctors in various specialties already successfully established. Three minutes from new South Community Hospital. Call SW 4-2246 after 7:00 p.m.

INTERNIST for five-man department in busy and steadily growing north central Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or certified. Contact Gerald R. Arnold, Business Manager, Gelvin-Haugh-ey Clinic, Concordia, Kansas.

WANTED: General Practitioner as associate with two busy GP's in Kansas community of 10,500 with trade area of about 20,000. Complete office facilities; x-ray units; laboratory and pharmacy in new medical building. Hospital located across street from office. If interested, please contact Reuben J. Burkman, M.D., 1501 West 7th, Chanute, Kansas.

NEEDED: A 200 or 300 milliamp, used x-ray machine with spot device and a proctoscopic tilt table, either hand or automatic. Direct all offers to P. O. Drawer G, Chickasha, Oklahoma 73018.

WANTED: One or two associates, small town medical and surgical practice. Above national median income. No investment required. Contact Charles A. Cashman, M.D., P.O. Box 226, Okemah, Oklahoma or 918 MA 3-1177.

WANTED: Internist for locum tenens for May 30th, 1966 through June 19th, 1966. Oklahoma State Medical License and malpractice insurance will be necessary. Contact Jack H. Foertsch, M.D., 304 Petroleum Building, Chickasha, Oklahoma 73018.

NEW two-doctor clinic for sale or lease in Atoka, Oklahoma. County seat. Across the street from hospital. New industries are locating here and doctors are needed. Contact: Bill Goforth, Administrator, Atoka Memorial Hospital. 1-405-Tu 9-3333.

EXCELLENT OPPORTUNITY for general practitioner in community of 15,000; central Florida; 76-bed JCAH Hospital. Write or call collect R. C. Thompson, Bartow Memorial Hospital, Bartow, Florida.

EXCELLENT OPPORTUNITY for young man wishing to start in general practice or for an established man wishing to relocate. Choice location in Oklahoma City suburb only minutes from two hospitals. Beautiful new building with two established physicians. A new man would have a very good practice at the end of the first year. For further information please contact Key C, The Journal, Oklahoma State Medical Association, P.O. Box 18696, Oklahoma City.

WANTED: General practitioner for Spiro, Oklahoma. Three-year-old community clinic rent free for six months. This includes reception room furniture, x-ray and examining tables. First year income should be between \$20,000 to \$25,000. Contact O. R. Sampson, Spiro Chamber of Commerce, Spiro, Oklahoma.

FOR SALE: Deceased physician's practice and equipment, including business office equipment and two examining rooms, plus laboratory equipment. The suite of rooms is on a rental basis in the Oklahoma National Bank Building in Chickasha, Oklahoma. Chickasha is a growing community of 16,000 population and is the home of Oklahoma College of Liberal Arts. Write to Robert B. Park, Federal Building, Chickasha, Oklahoma or to Neysa A. Davis, executrix, 1802 South 15th Street, Chickasha, Oklahoma.

SEVEN-YEAR-OLD 200 Milliamp GE Maxicon x-ray. Two tubes, rotating anode, table tilt in both directions, vertical tube stand and all accessories. Sell, lease or trade. Frank M. James, M.D., 2115 E. Robinson, Route 4, Norman, Oklahoma 73069.

GRADUATE of Arkansas School of Medicine desires locum tenens for the next six months. Leaving general practice to take residency; military service completed; 36-years-old. Contact Vernon H. Carter, Jr., M.D., Medical Arts Building, New Smyrna Beach, Florida.

TWO SOUNDSCRIBER Recorders and one Soundscrubber Transcriber, good condition. All three for \$195.00. May be inspected at Electronics Dictation System, Inc., 107 N.W. 23rd Street, Oklahoma City, JA 4-4907.

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